

A BRIEF

Natural History

Intermixed with variety

OF

Philosophical Discourses;

AND

REFUTATIONS

Of such

VULGAR ERROURS

As our Modern Authors have
hitherto omitted.

By *Eugenius Philalethes*.

LONDON

Printed for *Matthew Smelt* next door to the
Castle near Moor-gate. 1669.

Natural History

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By Eugene Philaltes.

LONDON

Printed for Matthew Smith next door to the
Coffee-house in Pall-mall.

THE
EPISTLE
TO THE
READER



Presume I shall no
sooner appear up-
on the Stage I am
prepared for, but
I must without evasion ex-
pect to be assaulted by that
furious and inconsiderate
Monster called Censour;
whose lashes I will receive
A 3 with

The Epistle

with the same slight concern,
the *Lacedemonians* did the
cruelty of their *Correctors*,
sporting themselves whilst
their backs were torn with
the unmerciful Whip. Of
that efficacy is Resolution,
that it presents pain but meer
Opinion, and values a
 scoffing *Lucian*, or a satyri-
cal *Memphus*, no more then
a harmless *Hellepont* did the
vain threats of a proud *Xer-
xes*. *Seneca* saith well, better
aliud agere quam nihil, for
Idleness

to the Reader.

Idleness is the Devils opportunity: the Considerations of which (with my assent to the Judgment of *Thucydides*, who sayes, To know a thing and not to express it is all one as though he knew it not) made me to expose my self to publick view. My Subject is good and great, called by the Name of *Nature*; here I present her, expressing mans Ingratitude; who is fit to strip her of those Robes of Priviledge

A 4

that

The Epistle 01

that God himself hath en-
dowed her with, not : consi-
dering that what she acts, is
by the vertue of his Power,
and that She is one of those
Mirrours that represents him
to us, which a Philosophick
Passion adores as the supream
Efficient. But indeed, how
can She expect our Vene-
ration, till we have divested
our selves of that prejudice
ignorance possesses us with,
which must be done by a se-
rious reflex upon her Effects,

as

to the Reader.

as this little Volumn will acquaint you, if you read it with an impartial and unbiassed Reason; for I have, as all others of the same Inclination must do, used Philosophy as the Telescope by which we must make our Observations; as you will, when you see, find my curiosity descending to little Insects, and that with wonder at their production out of Corruption; from thence I view her care in beautifying this little Globe

we

The Epistle

we live in, with Robes suitable to every Season; and when I ascend the lower Region, and mark the Clouds ranging themselves in such bodies as though they intended another Deluge, it occasions wonder; so likewise the coldness of the middle Region with the heat of the upper, and the Element of Fire, must be Miracles to ignorance. And if we observe the *Moon*, with the Motion attending that of the Seas flux and reflux

to the Reader.

flux, it would make us judge,
that there is some secret con-
tract made *ab Origine* be-
twixt her and the watery Ele-
ment. *Mercury* and *Venus*
I have spoken of in their pla-
ces: the next that presents us
with cause of Admiration, is
the glorious *Sun*, the Lumi-
nary of the Universe, called
by some, and not improperly,
the *Anima Mundi*, for we find
her approach gives life to Ve-
gitives, sense to Animals, and
almost a new Nature to Rati-
onals

The Epistle

onals. As for *Mars*, *Jupiter*, and *Saturn*, the Eighth *Sphere*, and *Chrystalline Heaven*, & the *Empyreum*, I have treated on, if not like a knowing Secretary of Nature, yet a submissive Admirer of her. And whereas I make a refutation of Errours, as an addition to my Title, some perhaps will say, I am like the Tinker, that for stopping of one hole make two, or for my refuting of one Errour, I have made two; it may be I have
in

to the Reader.

in the Opinion of some: But
whether I have or no, who
shall be judge? for what ap-
pears an Errour to one, is to
another a very evident truth:
sometimes a Week or a Day,
may an hour puts a change
upon an Opinion of many
years standing. But let my
Errours be as great and as ma-
ny as I pretend to correct,
Reason shall convince me,
and command my Acknow-
ledgment; for it's our Errours
that presents us human. I
have

The Epistle

have writ this to give Satisfaction to others if I can; but if not, howsoever I have secured it to my self; And let the Reader judge of it as it pleases him. I have writ that which delights me; And if envie cause any misapplication of my intention, it matters not, the contempt of it will make me bold to say, I leave it and thee after the rate As thou dost it and me as thou dost. The assertions here laid down are plain and perspicuous,

to the Reader.

ous, convincing and satisfactory to the intelligent. But I know that common prejudice which is usually taken of any thing (though never so true) which is contrary to any mans belief, it does beget such Passion and animosity, &c. and makes such a breach as is hardly to be repaired. And since our own Opinion may make it disputable, what reason we have to pretend to convince another by, I shall only offer
this

The Epistle &c.

this for common satisfaction,
that things demonstrable are
the most evident marks of
Truth; and that they are so
clearly manifested in this lit-
tle Book, deserves nothing
but sobriety and moderation,
and a well weighing of the
matter herein contained.
Reader, I am loth to leave
thee, but that I would not
keep thee from the Book it
self, which I hope will be to
thy ample satisfaction, &c.

Vale.
Eugenius Philalethes.



Natural History

Intermixed

With variety of Philosophical
Discourses, &c.



OD by his presential Essence
gives unto all things an Essence;
so that if he should withdraw
himself from them, as out of
Nothing they were first made,
so into Nothing they would be
again resolved. In the preservation then of
the Creature, we are not to consider so much
the impoency and weakness thereof, as the
goodness

goodness, wisdom, and power of the Creator, in whom, and by whom, and for whom, they live, move, and have their being. *The spirit of the Lord filleth the world*, saith the Author of the *Wisdom of Solomon*; and the secret working of the Spirit, which thus pierceth through all things, as *Virgil Æneid 6.* hath excellently express'd,

*Principio colunt ac terras camposque liquentes,
Lacumque globumque Lunæ, Titaniaq; astrum,
Spiritus intus alit, totamque infusa per artem,
Mens agitat molem & magno se corpore miscet.*

The Heavens, the Earth, and all the Liquid
Main,

The Moons bright Globe and Stars Ti-
tavian;

A Spirit within maintains, and their whole
Mass

A Mind, which through each part infus'd
doth pass,

Fashions and works and wholly doth trans-
pierce

All this great body of the Universe.

The Spirit the *Platonists* call the Soul of the
World; by it, it is in some sort quickned and
formalized, as the body of Man is by its rea-
sonable Soul. There is no question then, but
that

that this Soul of the World, (if we may so speak with reverence) being in truth no other then the immortal Spirit of the Creator, is able for to make the Body of the World Immortal, and to preserve it from Dissolution, as he doth the Angels, and the Spirits of men, were it not, that he hath determined to dissolve it by the same Supernatural and extraordinary Power, by which at the first he gave it existence. For my own part I constantly believe that it had a beginning, and shall have an ending; and I judge him not worthy of the name of a Christian, who is not of the same mind; yet so as I believe both to be matter of Faith; *Through Faith we understand that the World was framed by the Word of God, Heb. 11. 3.* And through the same Faith we understand likewise, that they shall be again unframed by the same Word. Reason may grope at this truth in the darks; howbeit, it can never clearly apprehend it, till it be enlightened by the bright beams of Faith. Though I deny not but that it is probable, though not demonstrative, and convincing Arguments may be drawn from the discourse of Reason to prove either the one or the other.

I remember the Philosophers propole a question, *Utrum Mundus solo generali concursu Dei perpetuaturare possit?* and for the most part they conclude it affirmatively, even such as

professed the Christian Religion, and for the proof of this assertion, they bring in effect this reason. The Heavens, say they, are of a nature which is not capable of it self of corruption; the loss of the Elements is recovered by compensation, of mixt bodies without Life by accretion, of living bodies by succession, the fall of the one being the rise of the other: as *Rome* triumphed in the ruines of *Alba*, and the depression of one Scale is the elevation of another; according to that of *Solomon*, *One generation passeth away, and another generation cometh, but the Earth abideth for ever*, Eccles. 1. 4.

Again, all Subcoelestial Bodies (as is evident) consist of Matter and Form; now the first Matter having nothing contrary unto it, cannot by the force of Nature be destroyed; and being Created immediately by God, it cannot be abolished by any inferiour Agent. And as for the Forms of Natural Bodies, no sooner doth any one abandon the Matter it informed, but another instantly steps into the place thereof; no sooner hath one acted his part and is retired, but another presently comes forth upon the Stage, though it may be in a different shape, and to act a different part; so that no proportion of Matter is, or at any time can be altogether void and empty; but like *Vertumnus* or *Proteus* it turns it self into a thousand Shapes, and is alwayes supplied and furnished with one Form

Form or other, by a power Divine above Nature: but to proceed, such and so great is the Wisdom, the Bounty, and the Omnipotence which God hath expressed in the Frame of the Heavens, that the *Psalms* might justly say, *The Heavens declare the glory of God, Psal. 19. 1.* The Sun, and the Moon, and the Stars serving as so many Silver and Golden Characters, embroidered upon azure for the daily Preaching and Publishing thereof to the World. And surely if he have made the Floor of this great house so beautiful, and garnished it with such wonderful variety of Beasts, of Trees, of Herbs, of Flowers, we need wonder the less at the Magnificence of the Roof, which is the highest part of the World, and the nearest to the Mansion House of Saints and Angels. Now as the excellency of these bodies appear in their Situation, their Matter, their Magnitude, and their Spherical and Circular Figure; so specially in their great use and efficacy; not only that they are for Signes and Seasons and for Days and Years; but in that by their Motion, their Light, their warmth, and Influence, they guide and govern, nay cherish and maintain, breed and beget these Inferiour Bodies, even of Man himself, for whose sake the Heavens were made. It is truly said of the Prince of Philosophers, *Sol & homo generant hominem*, the Sun and Man beget Man: Man concurring

in the generation of Man as an immediate, and the Sun as a remote cause. And in another place he doubts not to affirm of this inferior World in general, *Necessesse est Mundum inferiorem superiorem rationibus continuari, ut ex his ipsa Virtus derivetur.* It is requisite, that these inferior parts of the World should be conjoynd to the Motions of the higher Bodies, that so all their Virtue and vigour might be from thence derived.

There is no question but the Heavens have a marvellous great stroke upon the Air, the Water, the Earth, the Plants, the Minerals, the Beasts, and upon Man himself, at least with regard of his body and natural faculties. To let pass the quelling and withering of all things by their heats, and their reviving and resurrection, (as it were) by the reassels of the Sun, I am of opinion that the sap of the trees so precisely follows the motion of the Sun, that it never rests, but is in a continual agitation, as the Sun it self: which no sooner arrives at the Tropick, but he instantly returns, and even at the very instant (as I conceive) and I think it may be demonstrated by experimental Conclusions) the sap which by degrees descended with the declination of the Sun, begins to remove at the approach thereof, by the same steps that it descended: And as the approach of the Sun is scarce sensible at his first return

return, but afterwards the day increases more in one week, than before in two; in like manner also fares it with the Sap, in Plants, which at the first ascends up insensibly and slowly, but within a while much more swiftly and apparently. It is certain that the *Tulip*, *Marigold*, and *Sun-flower* open with the rising, and shut with the setting of the Sun; so that though the Sun appear not, a man may more infallibly know when it is high noon by their full spreading, then by the Index of a Clock or Watch. The *Hop* in its growing windeth it self about the Pole, always following the course of the Sun from East to West, and can by no means be drawn to the contrary, choosing rather to break then yield.

It is observed, by those that Sayl between the *Tropicks*, that there is a constant sea Wind, blowing from the East to the West, Saylers call it the *Breeze*, which rises and falls with the Sun, and is always highest at noon; and is commonly so strong, partly by its own blowing, and partly by over-ruling the Current, that they who sayl to *Pera*, cannot well return the same way they came forth: And generally Marriners do observe, that *ceteris paribus*, they sayl with more speed from the East to the West, then back again from the West to the East, in the same compass of time. All which should argue a wheeling about of the Air, and

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Waters,

Waters by the diurnal Motion of the Heavens, and especial by the motion of the Sun. Whereunto may be added, that high-Sea Springs of the year, are always nearer about the two *Aequinoctials* and *Solstices*; and the Cock as a trusty Watchman, both at midnight and break of day, gives notice of the Suns approach.

These be the strange and secret effects of the Sun, upon the inferiour Bodies; whence by the *Gentiles* he was held the visible God of the World: and termed the Eye thereof, which alone saw all things in the World, and by which the World saw all things in it self.

Omnia qui videt, & per quem videt omnia Mundus.

And most notably it is described by the Psalmist, in them hath he set a *Tabernacle* for the Sun, which is as a *Bridegroom* coming out of his Chamber, and rejoiceth as a strong man to run a race, his going forth is from the beginning of the Heaven, and his Circuits to the end of it, and there is nothing hid from the heat thereof, *Psal. 19. 4, 5, 6.*

Now as the effects of the Sun, the head-spring of Light and warmth, are upon these inferiour Bodies more active, so those of the Moon (as being *Ultima celo, Cusima terra*, nearer the Earth, and holding a greater resemblance

blance therewith) are no less Manifest. And therefore the Husbandman in sowing and setting, grafting, and planting, topping of Trees, and felling of Timber, and the like, upon good reason observes the waxing and waining of the *Moon*, which Learned *Zanchinus* in his *Operibus Dei*, well allows of; commending *Hesiod* for his rules therein, *Quod ex Luna decrementis & incrementis totius agriculture signa notat, quis improbet?* who can mislike it that *Hesiod* sets down the signs, in the whole course of Husbandry, from the waxing and waining of the *Moon*: the Tides and ebbs of the Sea follow the course of it, so exactly, as the Sea-men will tell you the age of the *Moon* only by the sight of the Tide as certainly, as if he saw it in the water. It is the observation of *Aristotle* and *Pliny* out of him, That *Oysters*, *Mussels*, *Cockles*, *Labsters*, *Crabbs*, &c. and generally all Shell-fish grow fuller in the increase of the *Moon*, but emptier in the decrease thereof. Such a strong predominancy it hath upon the Brain of Man, that *Lunaticks* borrow their very name from it; as also doth the Stone *Selenitis*; whose property, as *St. Augustine* and *Georgius Agricola* records it, is to increase and decrease in Light with the *Moon*, carrying always the resemblance thereof with it self. Neither can it reasonably be imagined, that other Planets, and Stars, and parts of Hea-

ven,

(10)
ven, are without their forcible operations upon these lower Bodies, specially considering that the very Plants and Herbs of the Earth, which we tread upon, have their severall vertues, as well single by themselves, as in composition with other ingredients. The Physitian in opening of a Vein, hath ever an eye to the Sign then reigning. The *Canicular* Star, especially in those hotter Climates, was by the Ancients always held a dangerous Enemy to the practise of Physick, and all kind of Evacuations. Nay, *Galen* himself, the *Oracle* of that profession, adviseth practitioners in that Art, in all their cures, to have a special regard to the reigning Constellations and Conjunctions of the Planets. But the most admirable mystery of Nature, in my Mind, is the turning of Iron touched with the Load-stone towards the North Pole; (of which I shall have occasion to discourse more largely hereafter in another Tract,) neither were it hard to add much more to that which hath been said, to shew the dependance of these Elementary Bodies upon the Heavenly: Almighty God having ordained, that the higher should serve as intermediate Agents, or secondary Causes; but so, as in the Wheels of a Clock; though the failing of the Superiour, cannot but cause a failing in the Inferiour, yet the failing of the Inferiour, may well argue some-

somewhat for it self, though it cannot cause
 a falling in the Superior, We have great Rea-
 son then, as I conceive, to begin with the exa-
 mination of the state of Celestial Bodies, in
 as much as upon them the condition of the
 subcelestial depends. Wherein five things
 will offer themselves to our consideration,
 their Substance, their Motion, their Light,
 their Warmth, and their Influence. That
 the Heavens are endued with some kind of
 Matter, though some Philosophers in their
 jangling humours, have made a doubt of it,
 yet I think no sober and wise Christian will
 deny it: But whether the Matter of it be the
 same with that of these inferior Bodies, *ad-
 huc sub Judice lis est*, it hath been and still is a
 great question among Divines. The Ancient
 Fathers and Doctors of the Primitive Church
 for the most part following *Plato*, hold that
 it agrees with the nature of the Elementary
 Bodies, yet so as it is compounded of the finest
 flower, and choicest delicacy of the Elements:
 But the *Scholastic* on the one side, that follow
Aristotle, adhere to his Quintessence, and by
 no means will be beaten from it, since, say
 they, If the Elements and the Heavens should
 agree in the same Matter, it should consequen-
 tly follow, that there should be a mutual Tra-
 ffique and Commerce, a reciprocal Action
 and Passion between them, which would soon
 draw

draw on a change, and by degrees a tune
upon those glorious Bodies. Now though
this point will never (I think) be fully and
finally determined, till we come to be inhabi-
tants of that place, whereof we dispute; (for
hardly do we guess aright at things that are
upon Earth.) *And with labour do we find the things
that are at hand; but the things that are in Heaven,
who hath searched out? Wisd. 9. 16.* Yet for the
present, I should state it thus, that they agree
in the same Original Matter; and surely *Mis-
ses*, methinks, seems to favour this opinion,
making but one Matter, (as far as I can gather
from the Text) out of which all bodily sub-
stances were Created.

Unus erat toto Vultus in Orbe.

Ovid. 1. Metam.

So as the Heavens, though they be not com-
pounded of the Elements, yet are they made
of the same Matter that the Elements are
compounded of; They are not subject to the
qualities of heat, cold, or drought, or moi-
sture, nor yet to weight, or lightness, which
arise from those qualities, but have a Form
given them, which differeth from the Forms
of all corruptible Bodies, so as it suffereth not,
nor can it suffer from any of them, being so
excellent and perfect in it self, as it wholly
satieth

sanateth the appetite of the Matter, *Human*, informeth. The Celestial Bodies the of, for ing with so noble a Form to actuate the at, as not, nor cannot, in the course of Nature, and lyable to any Generation or Corruption, in y, gard of their Substance; to any augmentation or diminution, in regard of their quantity; no nor any obstructive alteration, in respect of their qualities.

I am not ignorant, that the controversies touching the Form, what it should be, is no less then touching the Matter; some holding it to be a living and a quickning Spirit, nay a sensitive and rational Soul; which opinion is stiffly maintained by many great and learned Clerks, both *Jews* and *Gentiles*, and *Christians*; supposing it unreasonable that the Heavens which impart life to other Bodies, should themselves be destitute of Life: But this Errour, is notably discovered, and confuted by *Claudianus Espenatus*, a famous Doctor of *Sorbone*, in a Treatise which he purposely composed on that point, *de Calorum animatione*. In as much as what is denied those bodies in Life, in Sense, in Reason, is abundantly supplied in their constant and unchangeable duration, arising from that inviolable knot or indissoluble Marriage, betwixt the Matter and the Form, which can never suffer any Divorce, but from that hand which first joyued them. And howbeit it cannot

cannot be denied, that not only the reasonable Soul of Man, but the sensitive or the least What that flies in the Air, and the vegetative of the basest Plant that springs out of the Earth, are (in that they are indued with Life) more Divine, and nearer approaching the Fountain of Life, than the Formes of the Heavenly Bodies; yet as the Apostle speaketh of Faith, Hope, and Charity, concludes Charity to be the greatest, (though by Faith we do apprehend and apply the merits of Christ) because it is more universal in operation, and lasting in duration; so though the Formes of the Creatures endued with Life do in that regard come a step nearer to the Deity, than the Formes of the Heavenly Bodies, which are without Life; yet if we regard their purity, their beauty, their efficacy, their indeficiency in moving, their universality and independency in working, there is no question, but that the Heavens may in that respect be preferred, even before Man himself, for whose sake they were made; Man being indeed Immortal, in regard of his Soul, but the Heavens in regard of their Bodies, as being made of an incorruptible stuff.

Which cannot well stand with their opinion, who held them to be compos'd of Fire, or the Waters, which in the first of Genesis are said to be above the Firmament, and in the hundred

hundred forty eight *Psalms*, *Above the Heavens*, are above the Heavens we now treat of, for the tempering and qualifying of their heat, as did *St. Ambrose*, and *St. Augustine* hold, and many others, venerable for their Antiquity, Learning, and Piety. Touching the former of which Opinions, we shall have fitter opportunity to discourse, when we come to Treat of the warmth caused by the Heavens. But touching the Second, it seems to have been grounded upon a mistake of the Word Firmament, which by the Ancients was commonly appropriated to the eighth Sphere, in which are seated the fixed Starrs; whereas the Original *Hebrew* (which properly signifies *Extension*, or *Expansion*) In the first of *Genesis*, is not only applied to the Spheres in which the *Sun* and *Moon* are planted, but to the lowest Region of the Air, in which the Birds flie; and so do I with *Petrus* and *Pererius*, take it to be understood in this controversie. This Region of the Air being, as *St. Augustine* somewhere speaks, *Terminus intransgressibilis*, a firme and irremoveable wall of seperation betwixt the waters that are bred in the bowels of the Earth, and those of the Clouds. And for the Word Heaven, which is used in the hundred forty-eight *Psalms*, it is likewise applied to the middle Region of the Air, by the Prophet *Jeremy*, *Jer. 10. 13.* Which may serve for a Gloss upon

upon the Text alleaged out of the *Psalms*,
When he uttereth his voice, there is a noise of the
waters in the Heavens, and he causeth the vapours
to ascend from the ends of the Earth.

Now, the *Schoolmen* finding that the placing
of the waters above the *Starry Heavens*, was
both unnatural and unuseful, and yet not be-
ing well acquainted with the propriety of the
Hebrew Word, to salve the matter, tell us of
a *Christaline* or glassie Heaven, above the eight
Sphere, which say they, is undoubtedly the
waters above the firmament, mentioned by
Moses; which exposition of theirs, doth
cross the course of *Moses* his Historical Nar-
ration, his purpose being as it seems, only to
write the History of things which were visible
and sensible, as appeareth in part by his omit-
ting the Creation of Angels; whereas the
Christaline Heaven they speak of, is not only
invisible and insensible, but was not at all dis-
covered to be, till the days of *Hipparchus* or
Ptolemy.

And as for the fresh lustre and brightness
wherewith, as is commonly thought, the *Hea-
vens* shall be renewed at the last day, as a gar-
ment by the turning is changed, and by chang-
ing refreshed, it may be well by the making
them more resplendent then now they are, or
ever at any time were since their first Creation,
not by the scowring of contracted rust, but ad-
ding

ding a new gloss and augmentation of glory. And whereas some Authors have not doubted to make the spots and shadows appearing in the face of the *Moon* to be unredoubted arguments of that contracted rust; if those spots had not been original and native, of equal date with the *Moon* her self, but had been contracted by the continuance of time, as wrinkles are in the most beautiful faces, they had said somewhat, but that they were above fifteen hundred years agoe, appeareth by *Plutarch's* discourse de *Maculis in facie Luna*; and that they have any whit since increased, it cannot be sufficiently proved. Perchance by the help of the late invented perspective-glass, they have been more clearly and distinctly discerned then in former ages, but that proves no more that they were not there before, then that the *Sydera Medea*, lately discovered by the vertue of the same Instruments, were not before in being, which the discoverers themselves knew well enough they could not with any colour of reason affirm.

Howbeit it cannot be denied, but that new Stars have at times appeared in the Firmament; as some think, that was at our Saviours Birth; in as much as it appointed out the very House in which he was born, by standing over it, and was not (for ought we find) observed by the *Mathematicians* of those
 C times,

times; I would rather think it to be a blazing Light created in the Region of the Air, carrying the resemblance of a Star, seated in the Firmament.

As for that which appeared in *Cassiopea* in the year One thousand five hundred and seventy two, (the very year of the great Massacre in *France*) I think it cannot well be said to have been a true Star, it being observed by the most skillful and famous *Astronomers* of that time, to hold the same Aspect in all places in Christendom, to run the same course, to keep the same proportion, distance, and situation, every-where, and in every point, with the fixed Stars, for the space of two whole years. But this I take not to have been the effect of Nature, but the Supernatural and miraculous work of Almighty God, the first Author and free disposer of Nature. And the like may be said of all such *Comets* which have at any time evidently appeared, (if any such evidence can be given) to be above the Globe of the *Moon*.

St. Augustine in his *de Civitate Dei*, reports of *Varro's* book entituled *de Gente Populi Romani*; and he out of *Castor*, touching the Planet *Venus*, which to add the greater weight and credit to the relation, being somewhat strange and rare, I will set it down in the very words of *Varro*, as I find them quoted by *St. Augustine*,

in celo mirabile extitit portentum, nem in Stella Ve-
 naris nobilissima, quam Plautus vespurginem, Home-
 rum, Hesperon appellat, pulcherrimum dicitur. Castor
 scribit tantum portentum extitisse, ut mutaret colo-
 rem, magnitudinem & figuram, cuius, quid scilicet
 ita neque antea, neque postea sit, hoc factum Ogyge Ro-
 ge dicebant. Adrastus, Cynicenus, & Dion Neop-
 lites, Mathematici Nobiles, saith he, appeared
 a marvellous great wonder, the most noted
 Star call'd Venus, which Plautus calls Vespurgin,
 and Homer Vesperus the fair, as Castor hath left
 upon Record, changed both colour, and big-
 nels, figure and motion, which accident was
 never seen before, nor since that time; the
 renowned Mathematicians Adrastus and Dion
 averring, that this fell out during the Reign of
 King Ogyges; which wonder, neither Varro nor
 Augustine ascribe to the changeable matter of
 the Heavens, but to the unchangeable will of
 the Creator. And therefore the one calls it as
 we see mirabile portentum, and the other makes
 this Comment upon it, that it happened, quia
 ille voluit qui summo regis imperio ac potestate quod
 condidit, because he would have it so, who go-
 verns all things that he hath made, with a So-
 veraign independing Power. So that two spe-
 cial reasons may be rendred for these extraor-
 dinary unusual Apparitions in Heaven; the
 one that they may declare to the World that
 they have a Creatour and Commander, who

can alter and destroy their Natures, restrain
or suspend their operations at his pleasure,
which should keep men from worshipping them
as Gods, since they cannot keep themselves
from alteration. The other to portend and
foreshew his Judgments, as did that new Star
in *Cassopais*, a most unnatural inundation of
Blood in *France*; And this change in *Venus*,
such a Deluge in *Arbain*, as it overflowed, and
so wasted the whole Country, that for the
space of Two hundred years after, it was not
Inhabited. It will next fall to our task to
Discover of the Eclipses, of which *Virgil*, in
his *Georg. Lib. 2.* Calls,

Defectus Solis varios Lunaque Labores.

Defects and travels of the Sun and Moon.

As also the manner of the Ancient Romans
while such Eclipses lasted; who as *Tacitus* in
his *Annals* saith, *Lib. 7.* Did use to lift up
burning Torches towards Heaven, and withal
to beat pans of Brass and Basons, as we do
in following of a swarm of Bees. So *Berossus*,
Lib. 4. Met.

Commence

*Communis Gentes publicus Error,
Lassantque crebris pulsibus ara.*

A Common Error through the world
doth pass,
And many a stroke they lay on pans of
Brass.

And *Mamilius* speaking of the appearance
of the *Moons* Eclipse by degrees, in diverse
parts of the *Earth*, in his *Lib. 1.*

Serague in extremis quatuor gentibus ara,

The utmost Coasts do beat their Brass
pans Last.

And *Juvenal* the *Satyr*ist wittily describing
a railing Gosshop in his *Lib. 2. Sat. 6.*

Una laboranti poterit succurrere Luna,

She only were enough to help
The Labours of the *Moon*.

They thought thereby they did the *Moon*
great ease, and helped her in her Labour; as
Plutarch in his Life of *Emilius* observeth:
That *Emilius* himself a wise man, as the
same

same Author there Witnesseth, did congratulate the *Moons* delivery from an Eclipse with a solemn Sacrifice, as soon as she shined out bright again; which action of his, that prudent Philosopher and sage Historian, doth not only relate, but approve and commendeth it as a sign of godlikeness and devotion; yea this *Heathenish* and *Sottish* custom of relieving the *Moon* in this case by noise and out-cries, the Christians it seems borrowed from the *Gentiles*, as *St. Ambrose* expresses in his *Ser. 83.* And *Maximus Taurinensis* hath a Homile to the same purpose. Whereas *Aristotle* in his eighth Book of his *Metaphysicks*, makes it plainly to appear, That the *Moon* suffereth nothing by her Eclipse; where also he evidenceth by reason, that it is caused by the shadow of the Earth, interposed betwixt the *Sun* and the *Moon*: as in exchange or revenge thereof (as *Pliny* speaketh) the Eclipse of the *Sun* is caused by the Interposition of the *Moon*, betwixt the Earth and it. The *Moon* so depriving the Earth; and again, the Earth, the *Moon* of the beams of the *Sun*: which is the true cause, that in the course of Nature, the *Moon* is never Eclipse'd but when she is Full, the *Sun* and She being then in opposition; nor the *Sun*, but when it is New *Moon*; those two Planets being then in Conjunction: I say, in the course of Nature; for the Eclipse

at our Saviours Passion, was undoubtedly Supernatural: *Quam solis obscuracionem non ex causatione syderum cursu accidisse satis ostenditur, quod tunc erat Pascha Judæorum, nam plena Luna solemnizatur, agitur, laith St. Augustin Lib. 3. Civit. Dei, cap. 15.* It is evident, that that Eclipse of the Sun happened not by an ordinary and orderly course of the Starrs, it being then the Passover of the Jews, which was solemnized at the Full Moon; And this was it, that gave occasion, as is commonly believed, to that memorable exclamation of Denny the *Arsopagite*, being then in Egypt, *Aut Deus Nature patitur, aut Machina Mundi dissolvatur*; Either the God of Nature suffers, or the Frame of the World will be dissolved. And hereupon too, as it is thought by some, was erected the Altar at Athens, *Ignoto Deo, To the unknown God, Act. 17. 23.* Though others think, that this Eclipse was confined, in the borders of Judæa; howsoever it cannot be denyed, but that it was certainly besides and above the compass of Nature. Neither ought it to seem strange, That the Sun in the Firmament of Heaven should appear to suffer, when the Sun of Righteousness indeed Suffered upon the Earth.

But for other Eccipses, though the causes be not commonly known, yet the ignorance of them was it which caused so much Superstition.

in former Ages, and lest that impressi^on in mens minds, as even at this day, wise men can hardly be perswaded, but that those Planets suffer in their Eclipses, which in the *Sun* is most childish and ridiculous to imagine; since in it self, it is not so much as deprived of any Light, nor in truth can be; it being the Fountain of Light, from which all other Stars borrow their Light, but pay nothing back again to it, by way of retribution. Which was well expressed by *Pericles*, as *Plutarch* in his Life reports it, for there happening an Eclipse of the *Sun*, at the very instant when his Navy was ready to Lanch forth, and himself was embarked, his followers began much to be appall at it, but especially the Master of his own Gally, which *Pericles* perceiving, takes his Cloak, and therewith hoodwinks the Masters eyes, and then demands of him, what danger was in that, he answering none. Neither said *Pericles* is there in this Eclipse; there being no difference betwixt that Vail and my Cloak, with which the *Sun* is covered, but only in bigness. And the truth is that the *Sun* then suffered no more by the intervening of the *Moon*, then from *Pericles* Cloak, or daily doth from the Clouds in the Air, which hinder the sight of it, or by the interposing of the Planet *Mercury*, which hath sometimes appeared as a spot in it. But
whether

whether these Eclipses either cause or preface any change in these inferior Bodies, I shall have fitter occasion to examine hereafter; and so I pass from the Consideration of the substance, to the Motion of the Heavenly Bodies. *Motion* is so universal and innate a property; and so proper an affection to all Natural Bodies; that the great Philosopher knew not better how to define Nature, then by making her the Engineere and Principle of *Motion*; and therefore as other Objects, are only discernable by the sense, as colours, and sounds by hearing, *Motion* is discernable by both, sight and by feeling too, which is a third sense really distinguished from them both. That there is in the Heavenly Bodies, no *motion* of Generation or Corruption, and of Augmentation, or Diminution, or Alteration, I have already shewed. There are also, by reason of the incredible swiftness of the first Mover, and some other such Reasons, dare deny, (as Copernicus doth) that there is in them any *Local motion*, herein flatly opposing in my judgment both Scripture, Reason, and Sense; But take it as granted, without any dispute, that a *Local motion* there is; which is the measure of Time, as Time again is the measure of *Motion*; the Line of *Motion*, and the Third of Time, being both spun out together: some doubt

doubt there is touching the Mover of these Heavenly Bodies, what or how it should be; some ascribing it to their Matter, some to their Form, and some to their Figure, and many to the Angels, or Intelligences, as they call them, which they suppose to be set over them. For mine own part, I should think that all these, and every one of them, might not unjustly challenge a part in that *Motion*: the Matter as being neither light nor heavy; the Form as well agreeing with such a Matter; the Figure as being Spherical or Circular; the Intelligence as an assistant: in the Matter is a disposition; for where light Bodies naturally move upward, and heavy downward, that which is neither light nor heavy, is rather disposed to a Circular *motion*, which is neither upward nor downward. In the Figure is an inclination to that *motion*, as in a Wheel to be carried round, from the Form an inchoation or onset: and Lastly, from the intelligence, a continuance or perpetuation thereof, as that great Divine Hooker in his Ecclesiastical policy, c. 69. Expresseth, (saith he,) "Gods own Eternity
 "is the bound which leadeth Angels in the course
 "of their perpetuity, the perpetuity the band that
 "draweth out Coelestial Motion; that as the Elementary substances are governed by the Heavenly,
 "so might the Heavenly by the Angelical. As
 "the Corruptible by the Incorruptible, so the Material

terial by the Immaterial, and all Finiter by an In-
finite. It is the joynt consent of the Platonicks,
Peripateticks, Stoicks, and all noted Sects of
Philosophers, who acknowledg the Divine Pow-
er with whom agree the greatest part of our
Christian Doctors. That the Heavens are
moved by Angels, neither is there in truth
any sufficient means beside it, to discover the
being of such Creatures by the discourse of
Reason.

The most signal Motions of the Heavens
(beside their Revolutions, Trepidations, Lin-
ibrations, and I know not what hard Words,
which the Astronomers have devised to recon-
cile the diversity of their observations,) are
the Diurnal Motion of the fixed Stars and
Planets, and all the Cœlestial Spheres, from
East to the West, in the compass of every four
and twenty hours, and the proper Motion of
them all, from the West to the East. These
Motions, whether they perform themselves,
without the help of Orbes, as Fishes in the
Water, or Birds in the Air; or fastned to their
Spheres, as a Gemme in a Ring, or a Nail or
knot in a Cart Wheele, I cannot easily deter-
mine: howbeit I confels, we cannot well ima-
gin how one and the same body should be car-
ryed with opposite Motions, but by the help of
somewhat in which it is carryed. As the
Marriner may be carryed by the Motion of
his

his Ship, from the *East* to the *West*, and yet himself may walk from the *West* to the *East* in the same Ship: or a Flie may be carried from the *North* to the *South* upon a Cart-Wheel, and yet may go from the *South* to the *North* upon the same Wheel; but howsoever it be, it is evident, that their Motions are even and regular, without the least jart or discord, variation or uncertainty, languishing or defect that may be; which were it not so, there could be no certain demonstrations made upon the Globe or Material Sphere; which notwithstanding, by the Testimony of *Eclipses*, are most infallible, as appears by these his elegant Verses upon *Archimedes* admirable invention thereof.

Jupiter parvo cum cornetis aethera vitro,
 Redit, et superos talia dicta dedit:
 Huc, talis progressa potentia curae?
 Jam fragilem fragili luditur Orbe labor
 Jura Poli, rerumq; fidem legesq; Deorum
 Ecce Syracusus transtulit arte Senex.
 Inclusus variis famulatur spiritibus astris
 Percutit propriis montibus signifer annum
 Et famulata novo Cynthia mense redit.
 Jamq; suum volvens audax industria Mundum
 Gaudet & Humana sidera mense regit.

When Jove within a little glass survaid
 the

The Heavens, he (saill'd, and to the Gods
thus said;

Can strength of Mortal Witt proceed
thus far?

Loe in a fraile Orbe my works matched
are.

Hither the *Syracusians* art Translates
Heavens form, the course of things, and
human fates.

Th' included Spirit serving the Star deck-
ed signes,

The living Work in constant Motion
windes.

Th' adulterate *Zodiak* runs a Natural
year

And *Cymbias* forg'd horns monthly new
light bear,

Viewing her own world; now bold in-
dustry

Triumphes and rules with human pow-
er the skie.

The *Gentiles* saith *Julian* (As *Cyril* in his third
Book against him, reports it) *Violentes nihil eo-
rum que circa calum mirus vel augere neque ullam
sustinere de ordinatum affectionem, sed congruam illius
motionem ac bene optatam ordinem; definitas quoque
leges Luna, definitos ortus & occasus solis, statuta
semper temporibus, merito Deum & Dei solium sus-
picabantur.*

Seeing

Seeing no part of Heaven to be diminished and decreased, to suffer no irregular affection, but the Motion thereof, to be as duly and as orderly performed as could be desired, the waxing and waining of the *Moon*, the rising and setting of the *Sun* to be settled and constant at fixed and certain times; they deservedly admired it as God, or as the Throne of God. The order and Regulation of which Motions we shall easily perceive by taking a particular view of them. I will touch only those of the Planets. The proper Motion of *Saturn* was by the Ancients observed, and is now likewise found by our Modern Astronomers, to be accomplished within the space of thirty years, that of *Jupiter* in twelve, that of *Mars* in two, that of the *Sun* in Three hundred sixty and five dayes and almost six hours: neither do we find that they have quickned or any way slackned these their courses, but that in the same space of time they always run the same races they have passed. These then are the bounds and limits to which these glorious Bodies are perpetually tyed, in regard of their Motion; these be the unchangeable Laws, like those of the *Greeks* and *Persians*, whereof the *Psalmist* speaks, *He hath given them a Law which shall not be broken*, *Psal.* 148. 6. Which *Seneca* in his Book *De divina providentia*, well expresses in other words, *Aeterna legis impe-*

rio procedunt, they move by the appointment of an eternal Law, that is, a Law both invulnerable and inviolable. That which Tully hath delivered of one of them, is undoubtedly true of all: *Saturni Stella in suo cursu multa miracula efficiens, tum antea edendo, tum retardando, tum vespertinis temporibus delitescendo, tum matutinis rursus se aperiendo, nihil tamen immutat temporum saculorum atque annorum, quam eadem eiusdem temporibus efficiat, Lib. 2. de nat. Deor.* The Planet Saturn doth make strange and wonderful passages in his Motion, going before, and sometimes coming after, withdrawing himself in the Evening, and sometimes again shewing himself in the Morning, and changeth himself nothing in the continual duration of ages; but still at the same season worketh the same effects. And in truth, were it not so, both in the Planet and in all other Starrs, it is altogether impossible that they should supply that use which Almighty God in their Creation ordained them unto, that is, *To serve for Signs and Seasons, for dayes and for years to the Worlds end, Gen. 1. 14.* And much more impossible it were, that the year, the month, the day, the hour, the minute of the oppositions, the Conjunctions and Eccipses of the Planets, should be as exactly calculated and foretold One hundred years before they fell out, as at what hour the Sun will rise to morrow morning. To which

which perpetual equability and constant uniformity in the Cœlestial Motions the Divine Plato accords, *Nec errant, nec præter antiquum ordinem revolvuntur*, Neither do they run at random, nor are they rolled beyond their ancient order. Aristotle in his Book *De Mundo*, breaketh out in this passionate admiration thereof, *Quod nunquam poterit æquari cœlesti ordini, & volubilitati, cum sidera convertantur ex altissima norma de alio in aliud seculum*. What can ever be compared to the order of the Heavens, and to the Motion of the Starrs in their several Revolutions, which move most exactly by a rule or square, by line and level from one Generation to another.

There were among the Ancients not a few, nor they unlearned, who by a strong fancie conceived to themselves an excellent melody made up by the motion of the Cœlestial Spheers; it was broached by Pythagoras, entertained by Plato, and stily maintain'd by Macrobius, and some other Christians, as Bede, Boetius, and Anselm Bishop of Canterbury: But Aristotle puts it off with a jest in his *Lib. 2. de Cælo Cap. 9.* as being *Lepide & Musice dictum, factis autem impossibile*, a pleasant and Musical conceit, but in Effect impossible; in as much as those bodies in their Motion make no noise at all. Howsoever it may well be that this conceit of theirs was grounded upon a certain truth,

truth, which is the Harmonical and Proportionable Motion of those Bodies in their just order, and set courses, as if they were ever dancing the rounds and the Measures. In which regard the Psalmist tells us, *That the Sun knoweth his going down, he appointeth the Moon for seasons,* Psal. 104. 19. Which words of his may not be taken in a proper, but in a figurative sense; the Prophet therefore implying, that the Sun observeth his prescribed Motion so precisely to a point, that in the least jot he never erreth from it. And therefore he is said to do the same upon knowledge and understanding, *Non quod animatus sit aut ratione beatus.* I say, *Basil* upon the place, *Sed quod iuxta terminum divinitus prescriptum ingrediens, semper eundem cursus servat, ac mensuram suam custodit.* Not that the Sun hath any Soul, or use of understanding; but because he keepeth his courses and measures exactly according to Gods prescription. But the Motion of the Heavens puts me in mind of passing from it to the Light thereof. As the Waters were first spread over the face of the Earth: So was the Light dispersed through the Firmament: and as the Waters were gathered into one heape, so was the Light knit up, and united into one body: as the gathering of the Waters was called the Sea, so that of the Light was called the Sun. As the Rivers come from the Sea, so is all the

Light of the Stars derived from the Sun; and lastly, as the Sea is no whit lessened, though it furnish the Earth with abundance of fresh Rivers: So though the Sun have since the Creation, both furnished, and garnished the World with Light, neither is the store of it thereby diminished, nor the beauty of it any way stained. What the Light is, whether of a corporeal or incorporeal Nature, it is not easie to determine. Philosophers dispute it, but cannot well resolve it. Such is our ignorance, that even that by which we see all things, we cannot discern what it self is. But whatsoever it be, we are sure that of all visible Creatures, it was the first that was made, and comes nearest the name of a Spirit, in as much as it moveth in an instant from the East to the West, and piercing through all transparent Bodies, and still remains in it self unmixed and undivided; it chaseth away sad and melancholy thoughts, which the Darknes both begets and maintains; it lifts up our minds in meditation to him that is the true Light, that Lighteneth every man that cometh into the World, himself dwelling in Light inaccessible, and cloathing himself with Light as with a Garment. And if we may behold in any one Creature any spark of that Eternal Fire, or any farr-off dawning of Gods brightness, the same in the beauty and vertue of this Light may be
best

best discerned. *Quid pulcherrimus Luce, faith Hugo de sancto Vistro, quæ cum in se colorem non habeat, omnium tamen rerum colores ipsa quodammodo colorat.* What is more beautiful then Light, which having no colour in it self, yet sets a lustre upon all Colours? And St. Ambrose, *Unde Vox Dei in Scriptura debuit inchoare nisi a Lumine?* unde Mundus ornatus nisi a Luce exordium sumere? frustra enim esset si non videretur. From whence should the voice of God in holy Scripture begin, but likewise from the same Light; for in vain it were, were it not seen, as *Bartæ* excellently Expresseth.

O Father of the Light, of wisdom Fountain,

Out of the Bulk of that confused Mountain,

What should, what could issue before the Light,

Without which, Beauty were no beauty hight.

St. Augustine in divers places of his works is of opinion, That by the first Created Light, we understood the Angels, and herein is he followed by *Beda Encherius*, and *Rupertus*, and divers others; which opinion of his, though it be questionless unsound, in as much as we are taught, That the Light sprang out of Dark-

ness, 2 Cor. 4. 6. Which of the Angels can in no sort be verified, yet it shews the lightsome nature of Angels; so likewise the Angelical nature of Light still flourishing in youth, and is no more subject to decay then the Angels are. They who maintain, that the Soul of Man is derived *ex traduce*, hold withall that the Father in begetting the sons Soul looses none of his own, it being *tanquam Lumen de Lumine*, as one Light from another: nay, more then so, it is the very resemblance that the *Nicene Fathers* thought not unmeet to express the unexpressible Generation of the second Person in the *Trinity* from the First; who is therefore termed by the Apostle *The brightness of his Glory*, Heb. 1. 3. As then the Father of the Communicating of his Substance to his Son, looses none of his own; so the Sun by Communicating of his Light to the World, looses no part nor degree thereof. Some things there are of that nature, as they may be both given and kept, as Knowledge and Vertue, and Happines, and Light, which in Holy Scripture is Figuratively taken for them all. Whether the same Individual Light, be still resident in the body of the Sun, which was planted in it at the first Creation; or whether it continue empty and spend it self, and so like a River be repared with fresh supplies, for my part, I cannot certainly affirm, though I must

I must confess, I do rather incline to the former: But this I believe, as the body of the Sun is no whit lessened in extention, so neither is the Light thereof in intension: Men being now no more able to fix their eyes upon it, when it shines forth in its full strength, then they were at the first Creation of it. Now we have spoken of the Light, we shall next discourse of the warmth and influence thereof, which springs from it, which now succede in their order.

The Light of Heaven, of which we have spoken, is not more comfortable and useful, then is the warmth thereof; with a Masculine vertue it quickens all kind of Seeds, it makes them Vegitate, blossom and fructifie, and brings their Fruit to Perfection, for the use of Man and Beast, and the perpetuating of their own kindness; nay, it wonderfully refresheth and chears up the Spirits of Men, Beasts, Birds, and creeping things; and not only imparts the life of Vegetation, but of Sense and Motion, to many thousand Creatures, and like a tender Parent fosters and cherisheth it being imparted. Some there are that live without the light of Heaven, searching into and working upon those Bodies which the Light cannot pierce, but none without the warmth, it being in nature the universal instrument thereof, which made the Psalmist say, *That there is nothing*

thing hid from the heat of the Sun. Few things are hid from the Light, but from the Heat thereof nothing.

I am not ignorant that *St. Augustine*, *St. Basil*, *St. Ambrose*, and many Divines, held that there were Waters, properly so termed, above the Starry Firmament; who held withal, that the Sun and Starrs cause heat as being of a fiery Nature; those waters being set there, in their Opinion, for the cooling of that heat, which Opinion of theirs seems to be favoured by *Syracides* in the forty third of *Ecclesiasticus*, where he thus speaks of the Sun. *At noon it parcheth the Country, and who can abide the burning heat thereof. A man blowing a Furnace is in works of heat: but the Sun by neth the Mountains thre times more, breathing out fiery vapours.* Neither were there wanting some among the Ancient Philosophers, who maintained the same Opinion, as *Plato* and *Pliny*, and generally the whole Sect of *Stoicks*, who held that the Sun and the Starrs were fed with watery vapours, which they drew up for their nourishment, and that when the vapours should cease and fail, the whole world should be in danger of combustion; and many things are alledged by *Balbo* in *Cicero's* Second Book of the Nature of the Gods, in favour of this Opinion of the *Stoick*. But that the Sun and Starrs are not in truth fiery and hot, appears by the ground already

already laid touching the matter of the Heavens, that it is of a nature incorruptible, which cannot be if it were fiery, in as much as thereby it would become lyable to alteration and corruption by an opposite and professed enemy: besides, all fiery bodies by a natural inclination mount upwards, so that if the Starrs were the cause of heat, as being hot in themselves, it would consequently follow, that their circular Motion should not be natural but violent: Whereunto I may add, the noted Starrs being so many in number, namely, One thousand twenty and two, besides the Planets, and in Magnitude so great, that every one of those, which appear fixed in the Firmament, are said to be much bigger then the whole Globe of the Water and Earth; and the Sun again so much to exceed both that Globe, and the biggest of them, as it may justly be stiled by the Son of Syrac, *Instrumentum admirabile*, A wonderful instrument, *Ecclesiast. 43. 1.* Which being so, were they of fire, they would doubtless long ere this have turned the World into ashes, there being so infinite a disproportion betwixt their flame, and the little quantity of matter supposed to be prepared for their Fewel. That therefore they should be fed with vapours, *Aristotle* deservedly laughs at it, as a childish and ridiculous device, in as much as the vapours

pours, ascend no higher then the middle Region of the Air, and then distill again upon the Water and the Earth from whence they were drawn up; and those vapours being uncertain, the flames likewise feeding upon them must needs be uncertain, and daily vary from themselves both in quantity and figure, according to the proportion of their Fuel.

The absurdity then of this Opinion being so foule and gross, it remains that the Sun and Stars infuse a warmth into these Subcoelestial Bodies, as not being hot in themselves, but only, as being ordained by God to breed heat in matter capable thereof, as they impart life to some Creatures, and yet themselves remain void of life, like the brain which imparts sense to every Member of the Body, and yet is it self utterly void of sense. But here again, some there are which attribute this effect to the Motion, others to the Light of these glorious Bodies: And true indeed it is, that Motion causes Heat, by the attenuation and rarefaction of the Air; But by this reason should the Moon, which is nearer the Earth, warm more than the Sun which is many thousand miles farther distant? and the higher Regions of the Air, should be always hotter than the lower, which notwithstanding if we compare the second with the lowest, is undoubtedly false. Moreover the Motion
of

of the Cœlestial Bodies being uniform, so should the heat in reason derived from them likewise be; and the Motion ceasing, the Heat should likewise; and yet I shall never believe, that when the Sun stood still at the Prayer of *Joshua*, it then ceased to warm these Interior Bodies. And we find by experience, that the Sun works more powerfully upon a Body which stands still then when it moves, and the reason seems to be the same in the rest or Motion of a Body warming or warmed, that receiveth or imparteth heat.

The Motion being thus excluded from being the cause of this Effect, the Light must of necessity step in, and challenge it to its self; the Light then it is which is the cause undoubtedly of Cœlestial heat, in part by a direct beam, but more vehemently by a reflexed; for which very reason it is that the middle Region of the Air is always colder then the lowest, and the lowest hotter in the Summer then in the Winter, and at Noon then in the Morning and Evening, the beams being then more Perpendicular, and consequently in their reflection more narrowly united, by which reflexion and union, they grow sometimes to that fervency of heat, that fire springs out from them as we see in Burning-glasses: And by this artificial device it was that *Archimedes*, as *Galen* reports it in his third Book *De temperamentis*

peramentis, Cap. 1. Set on fire the *Emperours* Ships; and *Proclus* a famous *Mathematician*, practised the like at *Constantinople*, as witnesseth *Zonarus* in the life of *Anastatius* the *Emperour*. And very reasonable methinks it is, That Light, the most Divine Affection of the *Cœlestial* Bodies, should be the cause of warmth; the most noble active and excellent quality of the *Subcœlestial*. These two like *Hippocrates* Twins, *Simul oriuntur & moriuntur*, they are born and dye together, they increase and decrease both together; the greater the Light is, the greater the Heat; and therefore the Sun as much exceeds the other Stars in Heat, as it doth in Light.

The Suns continual Declination, or nearer approach to the Earth, is rather an idle Dream than a sound position, grounded rather upon the difference amongst *Astronomers*, arising from the difficulty of their observations, then upon any certain or infallible conclusion. *Ptolomy*, who lived about the year of *Christ* one hundred and forty, makes the distance of the Sun to be from the Earth, One thousand two hundred and ten Semidiameters of the Earth. *Albatagnius*, about the year Eight hundred and eighty, makes it One thousand one hundred and forty six. *Copernicus*, about the year One thousand five hundred and twenty, makes it One thousand five hundred and seventy nine.

Tyco brabe,

Tychobrahæ, about the year One thousand six hundred makes it One thousand one hundred eighty two. Now I would demand whether the Sun were more remote in *Ptolomies* time, and nearer in the time of *Albategnius*, and then again, more remote in the latter ages of *Copernicus* and *Tychobrahæ*? which if it were so, then one of these two must needs follow, that either these observations were not grounded upon so certain Principles as they pretend, or that the declination of the Sun is uncertain or variable, not constant and perpetual, as is pretended. But what would *Bodwin* say, if he lived, to hear *Lausbergius* and *Kepler*, and other famous *Astronomers* of the latter times, teaching that the Sun is now remote above Two thousand and eight hundred, nay three thousand Semidiameters from the Earth; affirming, that *Copernicus* and *Tychobrahæ* neglected to allow for refractions, which (as the *Opticks* will demonstrate) do much alter the case.

I will close up this point with the censure of *Scaliger* in his *Exercit.* 99. upon the Patrons of this lancy, *Quia viro nonnulli prodece ausi sunt, solis corpus longe proprius nos esse, quam quantum ab Antiquis scriptum sit, ita ut in ipsa deferentis corpulentia locum mutasse videatur, vel ipsa scripta spongiis, vel ipsi Authores scuticis sunt castigandi.* In as much as some have dared to broach, that the

the body of the Sun is nearer the Earth then by the Ancients was observed to be, so that it might seem to have changed place in the very bulk of the Sphear; either the Authors of this Opinion deserve themselves to be chastened with stripes, or surely their Writings to be razed with Sponges.

So that (as I conceive) it may fitly and safely be inferred, first, that either there is no such removal at all of the Sun, (as is supposed) or if there be, as we who are situate more Northerly, feel perhaps the effects of the defects of the warmth thereof, in the unkindly ripening of our fruits, or the like; so, likewise by the rule of Proportion, must it needs follow, that they who lye in the same distance from the *South Pole*, as we from the *North*, should enjoy the benefit of the nearer approach thereof; and they who dwell in the hottest *Climates* interjacent, of the abating of the immoderate fervency of their heat: From hence I again infer, that supposing a mutability in the Suns greatest Declination, look what damage we suffer by his further removal from us in the Summer, is at least in part recompenced by his nearer approach in Winter, and by his Periodical Revolutions fully restored. And so I pass from the Consideration of the warmth, to those hidden and secret qualities of the Heavens, which to

Astronomers

Astronomers and *Philosophers* are known by the name of Influences.

Howbeit *Aristotle* thorow all those Works; of his which are come to our hands, to my remembrance, hath not once vouchsafed so much as to take notice of such qualities, which we call Influences; and though amongst the Ancients *Averroes* and *Avicenna*, and amongst some of the latter times *Picus Mirandula*, and *Georgius Agricola*, seek to disprove them: yet both Scripture, and Reason, and the weighty Authority of many good Schollars, as well Christians as *Ethnicks*, have fully resolved me that such there are. They are by Philosophers distinguished into two Ranks; the First is, that Influence which is derived from the *Empyrean* Immoveable Heaven, the Pallas and Mansion House of Glorified Saints and Angels; which is gathered from the diversity of Effects, as well in regard of Plants, as of Beasts, and other Commodities under the same Climate, within the same Tract and Latitude, equally distant from both the Poles, which we cannot well originally refer to the inbred nature of the soile, since the Author of Nature hath so ordained, that the temper of the Inferiour Bodies should ordinarily depend upon the Superiour; nor yet the Aspect of the moveable Spheres and Starrs, since every part of the same Climate, successively, but equally enjoys
the

the same Aspect: It remains then, that these Effects be finally reduced to some Superiour immoveable cause; which can be none other then that *Empyrean Heaven*; neither can it produce these effects by means of the Light alone, which is uniformly dispersed through the whole, but by some secret quality which is diversified according to the divers parts thereof; and without this, we should not only find wanting that connexion and unity of order, in the parts of the World, which make it so comly, but withal should be forced to make one of the worthiest peeces of it void of Action, the chief end of every Created thing. Neither can this Action mis-beseem the worthiness of so glorious a piece, since both the Creatour is still busied in the works of Providence, and the Inhabitants in the works of Ministration.

The other kind is that which is derived from the Stars, the Aspect of severall Constellations, the Opposition and Conjunction of the Planets, and the like. These we have warranted by the mouth of God himself, in *Job 38. 31.* according to our last and most exact Translation: *Canst thou bind the sweet Influences of the Pleiades, or loose the bands of Orion? canst thou bring forth Mazoreth in his season? or canst thou guide Arcturus with his Sons? know'st thou the Ordinances of Heaven? canst thou*

set the dominion thereof in the Earth? where by the Ordinances of Heaven, it may be thought is meant, the course and order of these hidden qualities, which without Divine and Supernatural Revelation, can never perfectly be known to any mortal Creature.

Besides as *Sr. Walter Raleigh* hath well and truly observed, it cannot be doubted, but the Starrs are Instruments of far greater use, then to give an obscure Light, and for men only to gaze at after Sun set: it being manifest that the diversity of Seasons, the *Winters* and *Summers*, more hot or cold, more dry or wet, are not so uncertained by the Sun and Moon alone, who alwayes keep one and the same Course, but that the Starrs have also their working therein, as also in producing of several kinds of Mettals and Minerals in the bowels of the Earth, where neither Light nor Heat can pierce. For as Heat pierces where Light cannot, so the Influence pierces where the Heat cannot.

Moreover, if we cannot deny, but that God hath given Vertues to Springs and Fountains, to the cold Earth, to Plants, to Stones, and Minerals, nay to the excremental parts of the basest living Creatures; why should we rob the beautiful Stars of their working Powers? for seeing they are many in number, and of eminent beauty and Magnitude, we may

may not think, in the Treasury of his Wisdom who is Infinite, there can be wanting, even for every Star, a peculiar Virtue and Operation: As every Herb, Plant, Fruit, and Flower, adorning the face of the Earth, hath the like. As then these were not Created to beautifie the Earth alone, or to cover and shadow her dusty face; but otherwise, for the use of Man and Beast, to feed them and cure them: so were not those incomparably glorious Bodies set in the Firmament, to none other end then to adorn it, but for Instruments and Organs of his Divine Providence and Power, so far as it hath pleased his just Will for to determine; which *Bayle* admirably expresses.

I'll ne'r believe, that the Arch-Archi-

With all these Fires the Heavenly Arches
decks

Only for shew, and with these glistering
Shields

T' amaze poor Shepherds watching in
the Fields.

I'll ne'r believe, that the least Power that
pranks

Our Golden Borders, or the common
Banks,

And

And the left Stone that in her warming
lap,

Our kind nurse Earth covetously doth
wrap,

Hath some peculiar Vertue of its own,
And that the Glorious Starrs of Heaven
have none,

But shine in vaine, and have no charge
precise,

But to be walking in Heavens Galleries,

And through that Pallace up and down
to Clamber,

As golden Guls about a Princes Chamber.

But how far it hath pleased God in his Divine Wisdom to determine of these Influences; it is hard, I confess, to be determined by any human Knowledge.

For if in the peculiar vertues of Herbs and Plants, which our selves sow and set, and which grow under our feet, and we daily apply to our severall uses, we are notwithstanding in effect ignorant, much more in the Powers and workings of the Cœlestial Bodies. For (as to this purpose we said before) *Hardly do we guess at the things that are on the Earth, and with labour do we find the things that*

are before us: but the things which are in Heaven who hath searched out? *Wisd. 9. 16.* It cannot well be denyed, but that they are not Signes only, but at least wise concurrent Causes of immoderate cold or heat, drought, or moisture, lightning, thunder, raging winds, Inundations, Earthquakes, and consequently of Famine and Pestilence; yet such cross accidents may and often do fall out, in the matter upon which they work, that the Prognostication of these casual Events, by the most skillful *Astronomers*, is very uncertain: And for the common *Alminacks*, a man by observation shall easily find, that the contrary to their Predictions is commonly truest.

Now for the things which rest in the liberty of Mans Will, the Starrs have doubtless no power over them, except it be led by the sensitive appetite, and that again stirred up by the constitution and complexion of the body, as too often it is, specially when the humours of the Body are strong to assault, and the Vertues of the Mind weak to resist. If they have dominion over Beasts, what shall we judge of Men, who differ little from Beasts? I cannot tell, but sure I am, that though the Starrs incline a Man to this or that course of life, they do but incline, inforce they cannot: Education and Reason, and most of all Religion, may alter and over-master that Inclination,

nation, as they may produce a clean contrary Effect. It was to this purpose, a good and Memorable speech of Cardinal *Poole*, who being certified by one of his acquaintance, who professed the knowledg of these secret favours of the Starrs, that he should be raised and advanced to a great Calling in the World; made answer, that whatsoever was portended by the figure of his birth, for natural Generation, was cancelled and altered by the grace of his second Birth, or Regeneration in the Blood of his Redeemer.

Again, we may not forget that Almighty God created the Starrs, as he did the rest of the Universal, whose secret Influences may be called his reserved and unwritten Laws, which by his Prerogative Royal he may put in execution, or dispence with at his pleasure. For were the strength of the Starrs such as God hath quitted unto them, all Dominion over his Creatures, that Petition in the Lords Prayer, *Lead us not into Temptation, but deliver us from Evil*, had been none other but a vain expence of words and time. Nay, be he *Pagan* or *Christian* that so believeth, the only true God of the one, and the imaginary God of the other, would thereby be despoyled of all worship, reverence, and respect.

As therefore I do not consent with them who would make those glorious Creatures of

God vertueless : so I think that we derogate from his Eternal and Absolute Power, to ascribe to them the Dominion over our Immortal Souls, which they have over our Bodily Substances, and perishable Natures. For the Souls of Men loving and fearing God, receive Influence from that Divine Light it self, whereof the Sun's Clarity and that of the Stars is by *Plato* called but a shadow, *Lumen est Umbra Dei, & Deus est Lumen Luminis*, Light is the shadow of Gods brightness, who is the Light of Lights.

There have been great talks touching the Conjunction of *Saturn* and *Jupiter*, and many ominous conjectures are cast abroad upon it, which if perhaps they prove true, I should rather ascribe it to our sins, then to the Stars; they were not created to govern, but to serve Man, if he serve and be governed by his Creator: so that we need not to search the Cause so far off in the book of Heaven, we may find it written nearer home in our own Bosomes. And for the Stars, I may say, as our Saviour Christ doth the Sabbath, the Stars were made for Men, and not Men for the Stars; and if God be on our side, and we on his, *Jupiter* and *Saturn* shall never hurt us. But whatsoever the force of the Stars be, upon the persons of private Men, or the Stars of Wealpublicks, I should rather advise a modest ignorance

morance therein, then a curious inquisition
 hereinto, following the witty and pithy coun-
 sel of *Philonius* the Philosopher in *Gellius*,
Libro 4. Sect. 1. where he thus speaks, *Aut*
adversa eventura dicunt, aut prospera: si dicunt pro-
spere, & fallunt, miser fies frustra expectas de; & *si*
adversa dicunt: & mentimur, miser fies frustra ti-
mendo: si vera respondent, eaque sunt non prospera,
jam inde ex animo miser fies uttequam è fato fias; si
salicia promittunt eaque eventura sunt, tunc plane
duo gerum incommoda, & expectatio te spe suspensum
fatigabit, & futurum gaudii fructum spes tibi de-
floraverit. Either they portend or bad or good
 luck, if good, and they deceive, thou wilt be-
 come miserable by a vain expectation; if bad,
 and they lye, thou wilt be miserable by a
 vain fear; if they tell thee true, but unfortu-
 nate Events, thou wilt be miserable in mind
 before thou art by destiny; if they promise
 fortunate success, which shall indeed come to
 pass, these two inconveniences will follow
 thereupon, both expectation by hope will hold
 thee in suspence, and hope will devour and
 devour the fruit of thy content. His con-
 clusion is, which is also mine for this point
 and this discourse touching the Heavenly
 Bodies; *Nulla igitur pacto utendum est istiusmodi*
hominibus res futuras praesagientibus: We ought
 in no case to have recourse to these kind of
 Men, which undertake the foretelling of care-

ful Events. And so I pass from the consideration of the Cœlestial Bodies, to the Subcœlestial, which by Gods ordinance depend upon them, and are made subordinate to them; touching which and the Cœlestial Bodies both together, comparing each with the other, the Divine *Bartas* thus sweetly and truly sings;

Things that consist of th' Elements uniting,

Are ever tost with an intestine fighting,

Whence spring in time their Life and their deceasing,

Their diverse change, their waxing and decreasing,

So that, of all that is, or may be seen
With Mortal Eyes, under Nights horned Queen,

Nothing retaineth the same form and face,

Hardly the half of half an hours space.

But the Heavens feel not Fates impartial rigour,

Years adde not to their Stature nor their Vigour :

Life weares them not, but their green ever age,

Is all in all still like their pupillage.

Sublunary

Sublunary Bodies are such as God and Nature hath planted under the *Moon*. Now the state of these Inferiour being governed by the Superiour: as in the *Wheels* of a Clock or *Watch*, if the first be out of order, so are the second and third, and the rest that are moved by it; for it is more then probable that the first partake with them in the same condition; which dependance is very well exprest by *Boethius*, where having spoken of the constant regularity of the Heavenly Bodies, *de Consol. Lib. 4. Met. 6.* He thus goes on,

Hac concordia temperat equis, &c.

Thus Englished,

The Concord tempers equally
Contrary Elements,

That moist things yield unto the dry,

And heat with cold conseres;

Here Fire to highest place doth flie,

And Earth doth downward bend,

And Flowery Spring perpetually

Sweet odours forth doth send.

Hot Summer Harvest gives, and store

Of Fruit *Autumnus* yields,

And shoures which down from Heaven
do poure,

Each Winter drown'd the Fields:

(54)
What ever in the World doth breath,
This temper forth hath brought,
And nourished : the same by Death
Again it brings to nought.

Among the Subcelestial things following
Natures Method, I will first begin with the
consideration of the Elements, the most simple
and Universal of them all, as being the
Ingredients of all mixed Bodies, either in the
whole or in part, and into which the mixed
are finally resolved again, and are again by
turnes remade of them, the common matter
of them all still abiding the same : of which
aBarts,

Here's nothing constant, nothing still doth
stay ;

For Birth and Death have still successive
sway :

Here one thing springs not till another
dye,

Only the Maker lives Immortally.

The Almighty stable Body of this all,
(Of changeful chances common Arce-
nal,

All like it self, all in it self, contrain'd

Which by times flight hath neither lost
nor gain'd)

Changeless in Essence, changeable in
face, Much

Much more then *Proteus* or the subtil race
Of roving *Polypes*, who (to rob the
more)

Transform them hourly on the wavyng
Shore;

Much like the *French*, (or like our selves
their *Apes*)

Who with strange habits do disguise
their shapes,

Who loving novels full of affectation,

Receive the manners of each other Na-
tion,

By consent of Antiquity the Elements are
in Number four, The Fire, the Air, the Wa-
ter, and the Earth, of which the same Poet
thus expresses himself:

Four Bodies Primitive the World still
contains;

Of which, two downwards bend, the
Earth and Watery planes.

As many weight do want, and nothing
forcing higher

They mount, th' Air, and purer streams
of Fire,

Which though they distant be, yet all
things from them take

Their Birth, and into them their last re-
turns do make.

Three

Three of them shew themselves manifestly in Milk, the Butter being the Aerial part thereof, the Why the Watery, and the Cheese the Earthy : but all four in the burning of green Wood, The Flame being Fire, the smoak the Air, the Liquid destilling at the ends the Water, and the Ashes the Earth. Philosophy likewise by reason teaches and proves the same, from their Motion upwards and downwards, from their second qualities of lightness and heaviness, and from their first qualities, either Active as heat and cold, or Passive as dry and moist. For as their Motion proceeds from the second qualities, so do their second from their first from the Heavenly Bodies, next to which, as being the Noblest of them all, as well in purity as activity, is seated the Element of the Fire (though many of the Ancients, and some later Writers, as namely Cardano, (amongst the rest) seemed to make a doubt of it, *Lib. 1. Subtil.* And *Mavilius* in his first Book of *Astronomy*.)

*Ignis ad aethereas volucer se sustulit auras
Summaque complexus Stellantis culmina Caeli,
Flammarum vallo Natura Mania fecit.*

The Fire est soones up towards Heaven
 did flye,
 And compassing the Starry World, ad-
 vanced
 A wall of Flames to safeguard Nature
 by.

Next the Fire, is seated the Air, divided in-
 to Three Regions, next the Air the Water,
 and next the Water the Earth; so *Barras*,

Who so (sometime) hath seen rich in-
 gots tride,

Where forc't by Fire their Treasure they
 divide:

(How fair and softly Gold to Gold doth
 pass,

Silver seeks Silver, Brasse consorts with
 Brasse,

And the whole lump, of parts unequal,
 severs

It self apart, in white, red, yellow Ri-
 vers)

May understand how, when the mouth
 Divine

Open'd to each his proper place' as-
 sign)

Fire flew to Fire, Water to Water slid,
 Air clung to Air, and Earth with Earth

abid,

The

The Vail both of the *Tabernacle* and *Temple*, were made of *Blew*, and *Purple*, and *Scarlet*, or *Crimson*, and fine twisted *Linnen*: by which four as *Josephus* notes, were represented the four *Elements*; *Lib. Antiquit. 15. Cap. 14.* His words are these: *Velum hoc erat Babilonium variegatum, ex Hyacintho, & bysso, coequeque & purpura, mirabiliter elaboratum, non indignam contemplatione materia, commissionem habens, sed valut omnium imaginem praefers, Caele enim videtur ignem imitari, & Bysso terram, & Hyacintho lacum, ac Mare purpura, partim quidem coloribus, bysso autem & purpura Origine, bysso quidem quia de terra, Mare autem purpura signat.* The Vaile was *Babilonish* Work, most artificially imbroidered with *Blew*, and fine *Linnen*, and *Scarlet*, and *Purple*, having in it a mixture of things not unworthy of our *Consideration*, but carrying a kind of resemblance of the *Universe*, for by the *Scarlet*, seemed the *Fire* to be represented; by the *Linnen* the *Earth*, by the *Blew* the *Air*, and by the *Purple* the *Sea*; partly by reason the *Colours* of *Scarlet* and *Blew*, partly by reason of the *Original* of *Linnen* and *Purple*, the one coming from the *Earth*, the other from the *Sea*. And *St. Hieron* in his *Epistle to Fabiola, Epist. 128.* hath the very same conceit, borrowed, as it seems, from *Josephus*, or from *Philo*, who hath much to the like purpose, in his *Third Book* of

of the life of *Mafan* or it may be from *Wife*
 18. 14. *In the long Robe was the whole World*: As
 not only the *Vulgar Latin*, and *Arias Montanus*,
 but out of them and the *Greek Original*,
 our last *English Translation* reads it.

The Fire is dry and hot, the Air hot and
 moist, the Water moist and cold, the Earth
 cold and dry: thus are they linked, and thus
 do they embrace one another with their Sim-
 bolizing qualities, the Earth being linked to
 the Water by coldness, the Water to the Air
 by moistness, the Air to the Fire by warmth,
 the Fire to the Earth by drought: which
 are all the combinations of the qualities that
 can possibly be; hot and cold, as also dry and
 moist, in the highest Degrees, being altoge-
 ther incompatible in the same subject: and
 though the Earth and the Fire are most op-
 posite in distance, to substance, and in activity,
 yet they agree in one quality, the two mid-
 dle bring therein directly contrary to the two
 extrems, Air to Earth, and Water to Fire.

These four then, as they were from the
 beginning, so still they remain the Radical
 and Fundamental Principles of all Subce-
 lestial Bodies; distinguished by their several
 and Ancient Situations, Properties, Actions,
 and Effects; and howsoever after their old
 wont they fight and combat together, being
 single, yet in composition they still accord

mar-

marvellous well, as Boetius Lib. 3. *Ma.* 9.

Tu numeris Elementa ligas, ut frigora flammis,

Arida conveniunt Liquidis, ne purior ignis
Evales, aut mersas deducant pondera terras.

To Numbers thou the Elements dost tie

That cold with heat may symbolize, and dry

With moist, lest purer Fire should soare to high,

And Earth through too much weight too low should lie.

The Creator of them hath bound them, as it were, to their behaviour, and made them in every mixed body to stoop and obey one Prædominant, whose sway and conduct they willingly follow. The Air being Prædominant in some, as in Oyl, which alwayes swimmes on the top of all other Liquors; and the Earth in others, which always gather as near the Center as possibly they can. And as in these, they vary not a jot from their nature and wonted properties; so neither do they in their other conditions. It is still true of them, that *Nec gravitant nec levitant in suis locis*, there is no sense of their weight or light-

ness

ness in their proper places, as appears by this, that a Man lying in the bottom of the deepest Ocean, he feels no burthen from the weight thereof; the Fire shall serve to warm us, the Air to maintain our breathing, the Water to cleanse and refresh us, the Earth to feed and support us, and which of them is most necessary for our use is hard to determine: Likewise they still hold the same proportion one towards another, as they have done. For howbeit the *Peripateticks*, pretending herein the Authority of their *Mr. Aristotle*, tell us, that as they rise above one another in Situation, so they exceed one another *proportionally decupla*, by a ten-fold proportion; yet is this doubtless a foul Errour, or at least-wise a gross mistake, whether we regard their entire bodies, or their parts? if their entire bodies, it is certain, that the Earth exceeds both the Water and the Air by many degrees: the depth of the Waters not exceeding two or three miles, and for the most part not above halfe a mile, as Marriners find by their Line and Plummer, whereas the Diameter of the Earth, as *Mathematicians* demonstrate, exceeds Seven thousand miles. And for the Air, taking the height of it from the part of the ordinary Comets, it contains by estimation about fifty two miles, as *Nomius*, *Vissellio*, and *Alhazan* shew by *Geometrical* proofs. Whence

Whence it plainly appears, that there cannot be that proportion betwixt the entire Bodies of the Elements which is pretended, nor at any time was since the Creation. And for their parts, 'tis as clear by experience, that out of a few drops of Water, may be made so much Air as shall exceed them a thousand times at least.

There is in the Elements a noble compensation of their fourfold qualities, dispensing themselves by even turns and just measures. For as the Circle of the Year is distinguished by four quarters, one succeeding another, the time running about by equal distances: In like manner the Four Elements of the VVorld by a reciprocal vicissitude exceed one another: and which a man would think to be incredible, while they seem to dye, as *Philo* writes, they become Immortal, running the same race, and instantly traveling up and down by the same path. From the Earth the way riseth upward,, it dissolving into VVater, the VVater vapours forth into the Air, the Air is rarified into Fire, and again they descend downward the same way, the Fire by quenching being turned into Air, the Air thickned into VVater, and the Water into Earth. Hitherto *Philo*, wherein after his usual manner he *Platonizes*, the same being in effect to be found in *Plato's Timæus*, as also in *Aristo-*

cles

In
ma
me
cor
v.

les Book *De Mundo*, if it be his, in *Damascen*,
and *Gregory Nyssen*. And most elegantly in the
wittiest of Poets, *Ovid Met.* 15.

——— *Resolutaque tellus*
In liquidas rarefcit aquas tenuatur in au-
ras,
Aerque humor habet dempto quaque pondere
rursus
In superos aer tenuissimus emicat ignes.
Inde retro redeunt : idemque retexitur ordo
Ignis enim densum spissatus in Aera transit
Hinc in aquas tellus glomerata cogitur unda.

The Earth resolved is turned into
streames,
Water to Air, the purer Air to Flames :
From whence they back return, the fiery
flakes
Are turned to Air, the Air thickned
takes
The Liquid form of Water, that Earth
makes.

The Four Elements herein resembling an
Instrument of Musick with four strings, which
may be tuned diverse wayes, and yet the har-
mony still remains sweet : and so are they
compared in the Book of Wisdom, *Cap. 19.*
v. 17. The Elements agreed amongst themselves in
F this

this change, as when one tune is changed upon an Instrument of Musick, and the Melody still remaineth.

Uique novis facilis signatur cera figuris

Nec manet ut fuerat, nec formam servat eandem,

Sed tamen ipsa eadem est.

They are the Verses of Ovid in the 15 Met. touching which several Prints stamped upon one and the same lump of Wax *Bartas* curiously dilates in one of his weeks.

Our next subject will be to discourse of Comets and Blazing Stars, the uncertainty of the Predictions of them. Some took the Comet to have been a Star Ordained and Created from the first beginning of the World, but appearing only by times and by turns: of this mind was *Seneca*; *Cardan* likewise in latter times harp's much, if not upon the same, yet the like string. But *Aristotle* (in his *Natur. Quest. Lib. 7. Cap. 21. 23.* (whose weighty reasons and deep judgment I much reverence) conceiveth the Matter of the Comet, to be a very hot and dry exhalation, which being lifted up, by the force and vertue of the Sun, into the highest Region of the Air is there inflamed, partly by the Elements of Fire, upon which it bordereth, and partly by the motions of the Hea-

vens

vens which hurleth it about ; so that there is in the same manner of an *Earth-quake*, the Wind, the Lightning, and a Comet, if it be imprisoned in the bowels of the Earth, it causeth an *Earthquake*, if it ascend to the Middle Region of the Air, and be from thence beaten back ; Wind if it enter that Region and be there environed with a thick Cloud ; Lightning ; if it pass that Region a *Comet*, or some other fiery *Meteor*, in case the matter be not sufficiently capable thereof.

The common Opinion hath been, that *Comets* either as Signes or Causes, or both, have always Prognosticated some dreadful mishaps to the World, as out-ragious Winds, extraordinary Drought, Death, Pestilence, Warrs, the death of Princes and the like.

Nunquam futilibus exarduit ignitus aether.

Nere did the Heavens with idle blazes
Flame.

So *Manelins* hath it. But the Lord Privy Seal, Earl of *Northampton*, in his Defensative against the Poyson of supposed Prophecies, hath so strongly incountered this Opinion, that for my own part I must profess, he hath perswaded me, that there is no certainty of those Predictions, in as much as *Comets* do not

always fore run such events, neither do these events always follow upon the appearing of *Comets*. Some instances he produceth of *Comets*, which brought with them such abundance of all things, and abated their prizes to so low an Ebbe, as stories have recorded it for Monuments, and Miracles to posterity : and the like, saith he, could I say of others, *Anno Dom. 1555. 1556. 1557. 1558.* After all which years nothing chanced that should drive a man to seek out any cause above the common reach : and therefore I do allow of the diligence of *Gemma Frisius*, in taking notice of as many good, as bad effects, which have succeeded after *Comets*. Moreover he tells us, that *Peucer*, a great Mathematician of *Germany*, Prognosticated upon the last *Comet*, before the writing of his Defensative, that Mens bodies should be parched and burned up with heat : But how fell it out ? Forsooth, saith he, we had not a more unkindly *Summer* for many years, in respect of extraordinary cold : never less inclination to War ; No Prince deceased in that time, and the Plague in *Lombardy*, as God would have it, ceased at the rising of the *Comet*. Besides all this he reports, of his own experience, as an Eye witness, that when divers persons, upon greater scrupulosity then cause, went about to dissuade *Queen Elizabeth*, lying then at *Richmond*, from looking on the *Comet* which

which then appeared, with a courage answerable to the greatness of her State, she caused the Window to be set open, and cast out this Word, *Jacta est alea*, the Dice are thrown; thereby shewing, that her stedfast hope and confidence, was too firmly planted in the good pleasure and Providence of God, as not to be blasted or affrighted with those beams, which either had a ground in Nature whereupon to rise, or at least-wise no warrant in Scripture to portend the misfortune of Princes. Neither have I heard of any Comet that appeared before her Death (as at her entrance there did) nor that of Prince Henry, nor of Henry the Great of France; the one being a most peerless Queen, the other a most incomparable Prince, and the third for Prudence and Valour, a matchless King: Therefore as *Seneca* truly notes, Natural is *magis nova quam magna mirari*, It is natural unto us to be inquisitived and curious rather about things new and strange, than those which are in their own nature truly great; yet even amongst the Ancients, *Charlemaine* professed, that he feared not the signe of the Blazing-Star, but the Great and Potent Creator thereof. And *Vespasian*, as *Dion* reports, when the apparition of a Comet was thought to portend his Death, replied merrily: No, said he, this bushy Star notes not me, but the *Parthian*

Kings: *Ipsæ enim Comæti est, ego vero calvus sum*; for he wares bushy Locks, but I am bald. Lastly, some *Comets* have been the Messengers of joyful and happy tidings, as at the Birth of our Saviour, and another at the Death of *Nero*, *Cometes summè bonis apparuit, qui præ-nuntiatus fuit Mortis Magni illius Tyranni, & pestilentiissimi hominis*, saith *Tacitus*: There appeared a favourable and auspicious *Comet*, as an *Herauld* to Proclaim the Death of that Great Tyrant and most Pestilent Man. Though as to some judgments we are sensible (they by the Effects have been predictive) though the *Astronomers* have not found them out. Now that which hath been said of *Comets* may also be applied to other Fiery and Watery *Meters*, as Streamings, Swords, flying Dragons, fighting Armies, Gapings, two or three Sunns and Moons, and the like appearing in the Air, many times to the great terrour and astonishment of the beholders: of all which and many more of that kind, he that desires to read more of, I refer him to *Vicomeccatus, Garzæus, Pontanus, & Lycosthenes de prodigiis & portentis ab orbe condito, usque ad annum 1557*. And to other latter writers of Monstrous and Prodigious accidents. But the strangest Apparition in the Air that ever I heard or read of, was that which I find reported by *Mr. Fox*. in his *Acts and Monu-*
ments,

ments, whilst the *Spanish* Match with *Queen Mary* was in the heat of treating, and neer upon the concluding. There appeared in *London* on the fifteenth of *February* 1554, a *Rainbow* reverted, the *Bow* turning downwards, and the two ends standing upwards, a *Prodigious* and *Supernatural* Sign indeed of those miserable and bloody times which quickly followed after.

As touching unseasonable Weather, for excessive Heat and cold, or immoderate Drought and Rain, Thunder and Lightning, Frost and Snow, Hail and Winds, yea and Contagious Sickneses, and Pestilential and Epidemical Diseases, these arise from the infection of the Air, by noisome Mists and Vapours, to which we may adde Earthquakes, burning in the bowels of the Earth, and the like.

Earthquakes arise also from the distempers of the Air, but in another manner. They first gave occasion to the composing of that *Letany*, and therein to the *Petition against suddain Death*, which by Publick Authority is used through the Christian Churches at this day. By the force of *Earthquake* contrary to the Proverb, *Mountains have met* the City of *Antioch*, where the Disciples were first call'd *Christians*, with a great part of *Asia* bordering upon it, was in *Trajan's* time swallowed with an *Earthquake*, as *Dion* writes, who reports very mer-

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veilous things thereof. By the same means
at one time were Twelve famous Cities of
Asia over-turned in the Reign of *Tiberius*.
And at another time as many Towns of
Campania under *Constantine*. And of late
times we have not been without such won-
derful examples of the dreadfulnes of this
accident, above the Pestilence or any other
Miseries incident to Mankind. *Seneca* excel-
lently discourses of them, in the Sixth Book
of his Natural Question, *Hostem mure expellam*,
saith he, and so he goes on; to avoid prolixity
I shall here give you only the *English*, A Wall
will repel an Enemy, Rampires raised to a
great height by the difficulty of their access
will keep out powerful Armies, An Haven
shelters us from a Tempest, and the covering
of our Houses from the violence of Storms
and lasting Rains; the Fire doth not follow
us, if we Fly from it: against Thunder and the
Threats of Heaven, vaults under ground, and
deep Caves are Remedies; those Blastings
and Flashes from above, do not pierce the
Earth, but are blunted by a little piece of it
opposed against them; In the time of Pestil-
lence a Man may change Dwellings, there is
no mischief but may be shunned, the Light-
ning never struck a whole Nation, a Pestilen-
tial Air hath emptied Cities, not over-turned
them: but this mischief is large in spreading,
unavoidably

unavoidably greedy of Destruction, generally dangerous. For it doth not only depopulate Houses and Families, and Towns, but layes waste and makes desolate whole Regions and Countries: sometimes covering them with their own Ruines, and sometimes overwhelming them, and burying them in deep Gulfs, leaving nothing whereby it may appear so much as to posterity, that that which is not, sometimes was, but the Earth is levelled over most famous Cities, without any mark of their former existence; so far *Seneca*.

As these quakings of the Earth are very terrible, so are the burnings of the Bowels thereof no less dreadful; the one being as it were the cold, and the other the hot fits thereof. The Mountain *Ætna* in *Sicile* hath flamed in time past so abundantly, that by reason of the thick smoak and vapours arising therefrom, the Inhabitants thereabout sometimes could not see one another (if we may give credit to *Sandies* relation *Lib. 4.*) It raged so much that *Africa* was thereof an astonished Witness. But *Virgils* admirable description of it may serve for all.

— *Horificis tonat Ætna ruinis*
Interdumque atram perumpit ad æthera Nu-
bem;
Turbine fumantem piceo, & candente favil-
la, *Attollisque*

*Attollitque globos Flammarum & Sydera
Lambit;*

*Interdum scopulos, avulsaque viscera Mon-
tis*

*Erigit eructans liquefactaque saxa sub au-
ras*

*Cum gemitu glomerat, fandoque exaestuat
immo.*

Aetna here thunders with a horrid
noise,

Sometimes black clouds evaporated to
the skies,

Fuming with pitchy curls, and spark-
ling Fires,

Tosseth up, Globes of Flames to Starrs
aspires,

Now belching Rocks, the Mountains
entrails torne,

And groaning hurles out liquid Stones
there born

Thorow the Air in showres.

But rightly did *Ovid* in the 15c *Mt.* Devine
of this Mountain and the burnings therein,

*Nec quæ sulphureis ardet fornacibus Æna
Ignea semper erit, neque enim fuit ignea sem-
per.*

Æna which flames of Sulphur now
doth raise,
Shall not still burn, nor hath it burnt
always.

The like may be said of *Vesuvius* in the
Kingdom of *Naples*, it flamed with the great-
est horror in the first, or as some say in the
third year of the Emperour *Titus*, where be-
sides Beasts, Fishes, and Fowl, it devoured two
adjoyning Cities, *Herculanum* and *Pompeii*, with
the People in the Theatre: *Pliny* the Natural
Historian, then Admiral of the *Roman Navy*,
desirous to discover the reason, was suffoca-
ted, as his Nephew expressed in an Epistle of
his to *Cornelius Tacitus*; the like as to his too
strict enquiry of the increase and decrease of
the Sea, being reported of *Aristotle*.

Having thus employed my Reason as Di-
vinly as I could, in presenting my Reader with
an explanation of a few Leaves of the great
Volume of Nature: I shall now (with his
favour) think it convenient before I proceed
to

to treat of the Powers of the Mind in the Arts, &c. To rectify such other Vulgar Errours in their several Classes (though less considerable) as hitherto I have not met withal.

1. It is a common received Opinion in Philosophy that the principal faculties of the Soul, the Understanding, the Imagination and Memory are distinguished by three several Cells or Ventricles in the Brain, the imagination (as is conceived) being confined to the fore-part, the Memory to the hinder part, and the Judgment and Understanding to the middle part thereof; which Opinion *Laurentius* confutes, in his *Hist. Anat. Lib. 10. 9. 2.* and *Fernelius* derides, making them all to be dispersed through all the receptacles of the brain, in as much as sometimes when the whole Brain is disaffected, the operation but of one of these Faculties is hurt, and sometimes again, when but one Ventricle is hurt the operation of all the three Faculties is hindered. Neither ought it to seem more strange, that the same Ventricle in the brain should be capable of all these three Functions, then that the same Bone or Sinew and every part or Particle thereof should have in it (in regard of the nourishment it receives, and the excrement it drives forth) an attractive, a retentive, an assimilative, and an expulsive Vertue.

2. That in Nature there is an East and a West,

West, which as to me it seems cannot be, since that which to us is *East*, is *West* to our *Antipodes*, and that which is *East* to them, is *West* to us.

3. That a man hath a Natural speech of his own, as he is a man, (some think *Hebrew*) which Language he could speak by Nature if he were not taught some other: but this is a Dream, and hath as *Herodotus Lib. 6.* been twice confuted by a double experiment. The first was by *Psammeticus* a King of *Egypt*, who desiring to understand which was Mans most Ancient and Natural Language, caused two Children to be sequestred from all society of Men, and to be nourished by two she *Goats*, forbidding all speech unto them: which the Children continuing for a long time Dumb, at last uttered *Bec, Bec*: The King being informed, that in the *Phrygian* Language *Bec* signified Bread, imagined the Children called then for Bread; and from thence collected that because they spake that Language which no man had taught them; therefore the *Phrygian* Language was the Natural speech of Man. A weak proof and silly conceit. For the Childrens *Bec* (as is probably collected) was only that Language which they learned of their Goat-Nurses, when they came to suck their *Tetts*, who receiving from them some ease by their sucking, saluted them with *Bec*, the best Language they had, from whom the Children

dren learned it; and so much as they heard, so much just they uttered, and no more : and if they had not heard it, they could never have pronounced it, as we may evidently see in men that are born Deaf ; and by another experiment tryed upon other Infants, (which is our second instance) *Purchas* mentions it in his *Pilgrims, Lib. 1. Cap. 8.* tryed by *Melabdim Elchibar*, whom they call the great *Mogor* or *Mogul*. He likewise upon the forenamed Error, That a Man hath a certain proper Language by Nature, caused thirty Children to be brought up in dumb silence, to find out the Experiment, whether all of them would speak one and the same Language, having inwardly a purpose to frame his Religion according to that Nation, whose Language should be spoken, as being that Religion which is purely Natural to Man. But the Children proved all Dumb, though they were so many of them, and therefore they could not speak, because they were not taught : whereby it appeareth, that the speaking of any Language is not in Man by Nature ; the first Man had it by Divine Infusion, but all his Posterity only by Imitation.

4. In *Philosophy* it is commonly received, that the Heart is the seat and shop of the Principal Faculties of the Soul : Nay, Divine Scripture applying it self to the ordinary
Opinion

Opinion therein, in many places Attributes Wisdom and Understanding to the Heart: Whereas the noble pair of Physicians *Hipocrates* and *Galen* have made it evident by experimental proofs, that those Divine Powers of reasoning and discourse are seated in the brain, in as much as they are never hindered by the Distemper of the Heart, but of the Brain, nor recovered, being lost, by Medicaments applyed to the Heart, but to the Brain.

5. That the Radical Moisture, and primogenial heat naturally ingrafted in us wastes always by degrees from the time of our Conception, as Oyl in a Lamp, or Wax in a Taper: whereas till we come to the age of Consistence, we still grow in bulk, in strength, and stature: which for my own part I cannot conceive how it should be, if from our Infancy, our Natural heat and moisture still decreased.

6. That one hand by Nature is more useful and properly made for Action then the other; whereas we find no difference betwixt the two Eyes, the two Ears, the two Nostrills; and if Men were left to themselves, as many I think, if not more, would use the left hand, as now by education and custom do the right: And in truth I am of Opinion that God and Nature have given us two hands,

hands, that we should use both indifferently, that if need required, the one might supply the loss or defect of the other. Such would *Plato* have the Citizens of his Commonwealth to be, and such I do take those seven hundred *Benjamites* to have been mentioned in the 20th. of *Judges*; and if either hand should in Nature be preferred before the other, methinks in reason it should be that next the Heart, the Fountain of Life and Activity.

Secondly in History, which is Ecclesiastical, Civil, or Natural. To begin with that of Ecclesiastical.

1. It is commonly received, that *Simon Peter* encountred with *Simon Magus*, and that the Magician undertaking to fly up into the Air, the Apostle so wrought by Prayer and Fasting, that he came tumbling down and brake his Neck: But of this story saith *St. Augustine*, in his *Epist. 86. Consulano, est quidem & hac Opinio plurimorum, quanvis eam perhibeant esse falsam plerique Romani*: Many are of this Opinion, yet most of the *Roman Writers* would have it but a Tale. And in another place he calls it *Greciam fabulam*, an invention of the *Grecians*, who were so fruitful in these kind of Fables, that *Pliny* himself could say of them, *Hist. Nat. Lib. 8. 22. Mirum est quo procedat Græca credulitas, nullum tam impudens mendacium est ut teste careat*; it is a wonder to
see

see whether the credulity of the *Græks* carry them, there being no lye so shamefull, but it findes a Patron amongst them: nay, *Juvenel* the very Latin Poet took notice of their immoderate liberty this way, *Juven. Sat. 10.*

— *Quicquid Græcia mūdax*

Audet in Historia

What dares not Lying *Græce*
insert in Histories.

2. That *St. George* was a Holy Martyr, and that he Conquered the Dragon; Whereas *Dr. Reynolds de Sac. Rom. Idol. Lib. 10. Cap. 50.* Proves him to be both a wicked man and an *Arrian*, by the Testimony of *Epiphanius*, *Athanasius* and *Gregory Nazianzen* and *Baronius* himself in plain terms affirms, *Apparet totam illam de Alberto Georgii fabulam fuisse commentum Arrianorum*, It appears that the whole story of *George* is nothing else but a forgery of the *Arrians*; yet was he received (as we know) as a Canonized Saint through Christendom, and to be the Patron both of our Nation, and of the most honourable Order of *Knighthood* in the World.

G

3. That

3. That the *Wise-men* that came out of the *East* to Worship our *Saviour*, were Kings, and from hence (their bodies being Translated to *Cullen*) they are at this day commonly called the three Kings of *Cullen*, and the day Consecrated to their Memory, is by the *French* termed *Le jour de Trois Rois*, The day of the Three Kings. Yet *Mantuan* a Monk, fears not to declare his Opinion to the contrary, and gives his reason for it.

Nec Reges ut opinor erant, neque enim tacu-
issent
Historia Sacra Authores; Genui illud honoris
est
Inter Mortales quo non sublimius ullum,
Addi quod Herodus, ut magnificentia Regum
Postulat, hospitibus tantis regale dedisset
Hospitium, sacrumque Laros duxisset in amplex.

Had they been Kings, nor holy History
 Would have concealed their so great
 Majesty,
 Higher on which on Earth none can be
 named;
Herods Magnificence would sure have
 framed

Some

Some entertainment fitting their Estates,
And harbour'd them within his Royal
Gates.

4. That the *Sybill*s clearly foretold touching the Name of the forerunner, the Birth and Death of Christ, the coming of Antichrist, the overthrow of *Rome*, and the consummation of the World, which notwithstanding, (as *Causabon* hath learnedly observed) seems to be contrary to the Word of God, that so profound Mysteries should be revealed to the *Gentiles*, so long before the Incarnation of Christ; especially since they write more plainly and particularly of those matters then the Prophets of God themselves amongst the *Jews*; and the greatest Clarks amongst the *Gentiles* *Plato*, *Aristotle*, *Thomphrastus*, and others curious searchers into all kind of Learning, never so much as once mention either their Names or their Writings, nor any of their Mysteries. While the Church of Christ was yet in her Infancy, many such kind of Books were forged, thereby to make the Doctrine of the Gospel more passible among the *Gentiles*; and no marvel then that these of the *Sybill*s passed for current amongst them.

1. In History Civil or National, it is commonly received, that there were four, and but four *Monarchies* succeeding one the other; the *African*, the *Persian*, the *Grecian*, and the *Roman*; yet *John Bodwin*, a man of singular Learning, especially in matter of History, dares thus to begin the seventh Chapter of his *Method. Invetatus error de quatuor Imperiis, ac magnorum virorum opinione perculgatus, tam alte radices egit, ut vix evelli posse videatur.* That inveterate error of Four *Empires* made famous through the Opinion of great Men, hath taken such deep roots, as it seems it can hardly be pluckt up; and throw a great part of that Chapter labours he the confutation of those that maintain that Opinion.

2. That *Brute*, a *Trojan* by Nation, and a great Grand-child to *Æneas*, arrived in this Island, and gave it the Name of Great *Britain* from himself, here Reigned, and left the Government thereof divided amongst his three Sons, *England* to *Loegrinus*, *Scotland* to *Albanak*, and *Wales* to *Camber*: Yet *Camden* our great *Antiquary*, *Brit. de primis Incolis*, beating (as he professeth) his Brains and bending the force of his Wits to maintain that Opinion, he found no warrantable ground for it. Nay by forcible Arguments (produced as in the person

person of others disputing against himself) he strongly proves it, (in my judgment) altogether unwarrantable and unfound. *Boetius, Vives, Adricam, Junius, Polidorus, Vignier, Genabrard, Molinæus, Bodine,* and other latter Writers of great account, are all of opinion, that there was no such man as this supposed *Brute*: And amongst our own Ancient Chronicles, *John of Walsingham*, Abbot of *St. Alban*, holdeth the whole Narration of *Brute* rather to have been *Poetical* then *Historical*, as you shall find in his *Granario* 1440. which methinks is agreeable to reason, since *Cæsar, Tacitus, Gildas, Nennius, Bede, William of Malmesbury,* and as many others as have written any thing touching our Country before the year 1160. make no mention at all of him. The first that ever broached it was *Gifford of Monmouth* about Four hundred years ago, during the Reign of *Henry the Second*, who publishing the *British* story in *Latin*, pretended to have it taken out of Ancient Monuments written in the *British* Tongue: but this Book as soon as it peeped forth into the Light, was sharply censured both by *Giraldus Cambrensis*, and *William of Newburgh*, who lived at the same time; the former calling it no better then *Fabulosam Historiam*, a *fabulous History*, and the latter *Ridicula Fingunt*, *ridiculous Fictions*, and it

now stands branded with a black cole amongst the Books prohibited by the Church of *Rome*.

3. That the *Saxons* called the remainder of the *Brittains*, *Welch*, as being strangers to them: Whereas that Word signifies not as strangers either in the high or low *Dutch*, as *Verstgen*, a man skillful in those Languages, hath observed; and that the *Saxons* gave them the name of *Welch*, after themselves came into *Brittain*, is altogether unlikely: For that, inhabiting so neer them as they did, to wit, but over against them on the other side of the Sea, they could not want a more particular and proper Name for them, then to call them Strangers. It seems then to be more likely, that the *Romans* being Originally descended from the *Gauls*, the *Saxons* according to their manner of speech, by turning the *G.* into the *W.* and instead of *Gallie* called them *Wallie*, and by a brevisation *Welsh* or *Welch*, as the *French* at this day call the Prince of *Wales*, Prince de *Gallus*.

4. That the *Picts* are a Nation of People not above two or three foot high, and that they solemnly set themselves in Battail array to fight against the *Cross*, their greatest Enemies:

mies: of these notwithstanding *Casauon* in his Book *De Gigantibus*, Cap. *Ultimo*, saith, *Fabulosa illa omnia sunt quae de illis, vel Poeta, vel alii Scripturae tradiderunt*: All those things are Fabulous, which touching them either the Poets or other Writers have delivered. And with him further accordeth *Cardan*, *De rerum varietate* Cap. 4. *Apparet ergo Pigmium Historiam esse fabulosam, quod & Strabo sensit, & nostra aetas, cum omnia nunc firmè veris mirabilia innoverint, declarat*. It appears then that the History of the *Pigmies* is but a Fiction, as both *Strabo* thought, and our age, which have now discovered all the wonders of the World, fully declares. *Gellius* also, and *Rodrigus* refer those *Pigmies*, if any such there be, to a Kind of *Ape*.

3. In Natural History, (to pass by that Vulgar Errour of the *Phoenix*, so learnedly refuted by one of our late Writers,) I shall here first gainsay that gross Opinion, that the Whelps of *Dam* are at first littering without all form or fashion, and nothing but a little congealed Blood, or lump of Flesh, which afterwards the Dam shapeth by licking; yet is the Truth most evidently otherwise, as by the Eye witness of *Franklinus Rosticus*, *Græner*, and others it hath been proved. And herein, as in many other,

other fabulouſ Narrations of this Nature, ſim
which experience checks report I may iuſtly
juſtly put that of *Lucretius*,

Qui nobis obtruncat
Serſus eſſe poſſit, quæ ueræ et falſæ uenturæ

What can more certain be choſen ſence
Diſcerning truth from falſe pretences

2. What *Swans* a little before their Death
ſing moſt ſweetly, of which notwithstanding
Pliny Hiſt. 10. 23. thus ſpeaks, *Quoniam ueræ*
narratur flebilis cantus, falſo ut arbitror aliquot ex
perimentis. Swans are ſaid to ſing ſweetly be-
fore their Death, but falſly, as I take it, be-
ing led ſo to think by ſome experiments.

And *Seneca*, *Exercitiæ 27.* To the like pur-
poſe, *Ubi Cygni ueræ cantu ſanctiſſimo quædam*
Mandatorum parentis Græcia ſallaciuſque et ad
Luciani tribunal, apud quem aliqui noui diuerſiſſi

Touching the ſweet ſinging of a liſt
Swan which with *Grece* the Mother of Lies
you dare to Publiſh: I cite you to *Lucians*
Tribunal there to ſee abroad ſome new ſtuff.
Andriælian, Libe 10. 14. *Cantandi ſtudioſos eſſe*

jam communis sermone perullatum est: ego vero ag-
nam nunquam audivi: sed, si suffraganeus alio tho-
Sennate skillful in singing is how rife in every
mans mouth, but for my self I never heard
them sing, and perollance no man else, yea
police his

That the *Esop* hath no eyes, nor the
Blasphemous knees both, which notwithstanding
by daily and manifest experience are found to
be untrue.

4 That the *Beaver* being hunted and in dan-
ger to be taken, biteth off his Stones, know-
ing that for them his Life only is sought, and
so often escapeth: hence some have deuyed
his name *Castrum* or *Castrandus*, *suspem*, from geld-
ing himself: and upon this supposition the
Egyptians in their *Hieroglyphicks*, when they
will signifie a man that hurteth himself they
picture a *Beaver* biting off his own Stones,
though *Esop* in his *Fables*, turnes it to a
contrary purpose, teaching us by that exam-
ple to give away our ourselves, rather
then our lives, and by our Weaknes to redeem
our danger: But this relation touching the
Beaver is undoubtedly false, as both by sense
and experience, and the testimony of *Dierfor-
dis*, Lib. 3. Cap. 13. is manifested. First, be-
cause their stones are very small, and so placed
in

in their bodies as are a *Bear*, and therefore impossible for the *Bear* himself, to touch or come by them; and Secondly, they cleave so fast unto their back, that they cannot be taken away, but the *Beast* must of necessity lose his Life; and consequently most ridiculous is their Narration, who likewise affirm, that when he is hunted, having formerly bitten off his stones, he standeth upright, and sheweth the Hunters that he hath none for them, and therefore his Death cannot profit them, by means whereof they are averted and seek for another.

5. That the *Hare* is one year a Male, and another a Female: whereas *Rondelism* affirms, that they are not stones which are commonly taken to be so in the Female, but certain little bladders filled with matter, such as are upon the belly of a *Bear*, wherein also the *Vulgar* is deceived, mistaking (as I should before have taken notice) those for stones as they do these; Now the use of these parts both in *Bears* and *Hares* is this, that against Rain both the one and the other Sex suck out a certain humour, and anoint their bodies all over therewith, which serves them for a kind of a defence against Rain.

6. That

6. That a *Salamander* lives in the Fire, yet both *Galen* and *Dioscorides* refute this Opinion. And *Martialus* in his commentaries upon *Dioscorides*, a very famous Physician, affirms of them, that by casting of many *Salamanders* into the Fire for tryal, he found it false. The same experiment is likewise avouched by *Jamblicus*.

7. That a *Wife*, if he see a man first suddenly strikes him dumb, whence comes the Proverb, *Lupus est in fabula*, and that of the Poet,

Lupi Marini videre priores.

The Wolves saw Mæris first.

Yet *Philip Camerarius* professeth, *fabulosum esse quod vulgo creditur hominem a Lupo prorsus, subito consternari & vocem amittere.* That it is fabulous which is commonly believed, that a Man being first leen of a *Wife* is thereupon astonished and looseth his voice: And that himself hath found it by experience to be a vain Opinion; which *Scaliger* likewise affirms upon the same ground. *Utinam tot fabulæ significauerit mendaciorum assertores isti, quæ à Lupo visæ*

visæ

vise sumus sine iactura vocis. I wish those Patrons of Lies were chastised with so many blows, as at sundry times I have been seen of *Wolven* without any loosing of my voice.

¶ That men are sometimes transformed into *Wolven*, and again from *Wolven* into men; touching the falsehood whereof *Pliny* himself is thus confident, *Nat. Hist. Lib. 8. Cap. 22. Homines in Lupos ueris rursusque restituti sibi, falsum esse confidenter existimare debemus: aut credere omnia quae fabulosa, et secus comperimus.* That men are changed into *Wolven*, and again restored to themselves, that is to the shape of men, we ought assuredly to believe false, or give credit to whatsoever we have found fabulous, through the course of so many ages. Now that which hath given occasion to this opinion might be as I suppose either an illusion of *Satan* in regard of the beholders, or a strong melancholy imagination in the patients, or the education of men amongst *Wolven* from their very infancy. For that the Devil cannot by his pleasure transubstantiate or transform one substance into another, I hold it no sound Dignity.

¶ That the *Mandrakes* represent the parts and shape of a Man: yet the same *Mathiolus*

in

in his *Commentary* upon *Dioscoridē* affirms of them, *Radices paræ Mandragoræ humanæ effigiem representare, ut vulgo creditur, fabulosum est*. That the Roots of the *Mandrake* represent the shape of a Man, as it is commonly believed is fabulous, calling them cheating knaves and goggled salvers that carry them about to be sold, therewith to deceive barren Women and such

10. That the *Pelican* turneth her beak against her brest, and therewith pierceth it till the blood gush out, wherewith she nourisheth her young: whereas a *Pelican* hath a beak broad and flat, much like the slice of *Apothecaries*, and *Chirurgeons*, wherewith they spread their Plaisters, no way fit to pierce, as *Laurentius Gubernus*, Counsellor and Physitian to *Henry* the Fourth of *France*, in his book of popular Errors hath observed.

11. That *Vipers* in their Birth kill their Mother of whom they are bred: *Scaliger* out of his own experience assures the contrary: *Viperæ*, saith he, *ab impatientibus impraesatis Numerosis, atque idcirco erumpentibus rumpi, atque interire falsum est scimus, qui in Vincentii Camerini Lignotheca videmus magnas viperillas parvas re salvas*: That *Vipers* are rent and slain by the number of their young ones, impatient of delay,

lay, and striving to get forth, we know to be false, who in a wooden box belonging to *Vincennes Cassinians* have seen the young ones newly brought forth, together with the old one, safe and sound. True it is that the *Viper* bringing sometimes twenty or more, and being but delivered of one a day, the hindermost impatient of so long delay sometimes gnaws through the tunicle or shell of the Egge in which they are inclosed, and cometh forth with part of it upon them, which *Aristotle* affirming, thereupon it seemeth grown the mistake, that they gnaw through the belly of their Dam, which is undoubtedly false. The derivation then of the Word *Vipera* being *Quasi vi parientis*, is but a trick of wit, grounded upon an Erroneous suspicion; It being rather (as I conceive) from *vinum parientis*, there being no other kind of *Serpens* that bringeth forth her young hatched out of an Egge, but only the *Viper*. For the Readers ampler and fuller satisfaction in such curiosities, I refer him to *Doffor Brown* Learned discourse of the Errors of the Vulgar.

For though I might give many more instances both in Philosophy and History, to shew that it is a thing neither new nor unjustifiable by the practice of *Wifemen*, to examine and

and impugne received Opinions, if they be found Erroneous; Nevertheless for the present, Let it suffice (that amongst many others throughout this Treatise) I have also removed these few stumbling blocks out of the way. I shall next make good my promise according to the brevity of my former Method, to treat of the decay of the Powers of the minde in the Arts and Sciences, their helps and hindrances in matter of Learning, ballanced; as also that there is both in Wits and Arts, as in all things besides, a kind of a circular progress, as well in regard of places as times, that they have their rise and fall, increase and decrease, and so through the Divine assistance I shall set a period to this discourse.

Since it is a received conclusion of the choicest, both Divines and Philosophers, that the reasonable Soul of Man is not converted into him by his Parents, but infused immediately by the Creatour, and withall that the Souls of all men, at their first Creation and Infusion, are equal and perfect alike, endued with the same Essence and abilities, it must needs be, that the inequality and disparity of actions, which they produce, arise from the diverse temper of the matter which they inform, and by which, as by an instrument they work.

New

Now the matter being tempered by the disposition of the bodies of our Parents, the influences of the Heavens, the quality of the Elements, Diet, Exercise, and the like, it remains, that as there is a variety and Vicissitude of these, in regard of good and evil, so is there likewise in the temper of the matter whereof we consist, and the actions which by it our Souls produce: yet, where both the Agents and the instruments are alike, yet by the diversity of education and Industry, their works are many times infinitely diversified.

The principal faculties of the Soul are Imagination, Judgment, and Memory. One of the most famous for Memory amongst the Ancients, was *Seneca the Father*, who reports of himself *Proemio, Lib. 1. Contrav.* That he could repeat a thousand names or two hundred verses, brought to his Master by his School fellows backwards or forwards. But that which *Muretus Lib. 3. Variar. Liction.* reports of a young Man of *Corsica*, a Student in the Civil Law, whom himself saw, at *Padua*, far exceeds it: he could, saith he recite Thirty thousand Names in the same order as they were delivered, without any stop or staggering, as readily as if he had read them out of a Book: his conclusion is *Hinc ego nec*

ex antiquitate quidam, quem opponam habeo, nisi forte *Cyrum, quem Plinius, Quintilianus, & alii Latini Scriptores tradiderunt tenuisse omnium militum nomina*: I find none among the Ancients, whom I may set against him, unless *Cyrus* perchance, whom *Pliny*, *Quintillian*, and other Latin Writers, report to have remembered the names of all his Souldiers, which yet *Muretus* himself doubts was mistaken of them. *Zenophon*, of whom only or principally they could learn it, affirming only that he remembered the names of his principal Captains, or chief Commanders. And *Aeneas Sylvius*, in his History of the Council of *Basil* (at which himself was present) tells us of *Lodovicus Pontanus* of *Spoleta*, a Lawyer likewise by Profession, (who dyed of the *Pestilence* at the Council, at Thirty years of age) that he could recite not the Titles only, but the intricate Bodies of the Laws, being for vastness and fastness of Memory, *Nemini Antiquorum inferior*, as he speaks, nothing inferiour to any of the Ancients. *Famianus Strada*, in his first Book of *Academical Prolusions*, relates of *Francis Suarez*, who had, saith he, so strong a Memory, that he had *St. Augustine* (the most copious and various of the Fathers) ready by heart, alledging every where (as occasion presented it self) fully and faithfully, his

Sentences, and which is stranger, his very words; nay, if he demanded any thing touching any passage in any of his Volumes (which of them will make a great shew towards the filling of a Library) *Statim quo loquo, quaque pagina differuerit ea super re expedite docentem ac digito commensurantem sæpe videmus*: I my self have often seen him instantly shewing and pointing with his Finger, to the place and Page in which he disputed of that Matter; this is, I confess, the Testimony of one Jesuit touching another, but of Dr. Reynolds, it is most certain, that he excelled this way, to the astonishment of all that were inwardly acquainted with him, not only for St. Augustines works, but also all Classick Authors: so that as in this respect it might truly be said of him, which hath been applied to some others, that he was a living Library, or a third University: for it hath been very credibly reported of him, that upon occasion of some writings which passed to and fro, betwixt him and Dr. Gentilis, then a professour in our Civil Laws, he publickly professed, that he thought Dr. Reynolds had read, and did remember more of those Laws than himself, though it were his Profession, in which he admirably excelled.

And

And for the excellency of the other faculties of the Mind, together with that of the Memory, it is a wonderful Testimony that *Vines* (a Man of eminent parts) in his Commentaries on the second Book, and 17. Cap. *de Civit. Dei*, gives *Budæus*; *Quo viro*, (saith he) *Gallia acutiore ingenio, acriore judicio, exactiore diligentia, majore eruditione nullum nunquam produxit, hac vera stato nec Italia quidem*; then which man, *France* never brought forth a sharper wit, or pierceing judgment, of more exact diligence, or greater Learning, nor in this age *Italis* it self: And then going on tells us, that there was nothing written in *Greek* or *Latin*, which he had not turned over, read and examined; *Greek* and *Latin* were both alike to him, yet was he in both most excellent, speaking either of them as readily, and perchance with more ease then the *French*, his Mother Tongue; he would read out a *Greek* Book in *Latin*, and out of the *Latin* Book into *Greek*. Those things which we see so exquisitely written by him, flowed from him *extempore*; he writ more skilfully both in *Greek* and *Latin*, then (as he affirms) the most skilfull in those Languages understand. Nothing in those Tongues being so abstruce and difficult, which he had not ransacked, entred upon, looked into, and

brought as it were another *Cerberus* from Darkness to Light. Infinite are the significations of Words, the Figures, and proprieties of speech, which unknown to former Ages, by the only help of *Budens*, studious men are now acquainted with. And these so great and admirable things, he without the direction of any Teacher, learned merely by his own industry; *Felix & secundum ingenium, quod in se uno invenit & doctorem & discipulum, & docendi viam rationemque, & cujus decimam partem, alii sub magnis Magistris vix discunt, ipse id totum a se Magistrum edoctus est*: An happy and fruitful Wit, which in himself alone found both a Master and a Scholler, and a method of teaching; and the tenth part of that which others can hardly attain unto under famous Teachers, all that learned he of himself, being his own Reader. And yet (saith he) hitherto have I spoken nothing of his knowledge in the Laws, which being in a manner ruined, seem by him to have been restored; nothing of his Philosophy, whereof he hath given us a tryal in his *Book de Affe*, that no man could compose them, but such a one as was assiduously versed in all the books of the Philosophers; and then having highly commended him for his piety, his sweet behaviour,

behaviour, and many other rare and singular Vertues added to his greatness, he farther adds, notwithstanding all this, that he was continually conversant in domestick and state Affairs at home, and Ambassages abroad; for it might truly be said of him, As *Plinius Tacitus* speaks of his *Unde Secundus*, when I consider his State Affairs, and the happy dispatch of so many businesses, I wonder at the multiplicity of his Reading and Writing; and again, when I consider this, I wonder at that and so leave him with that happy distick of *Buchanan*.

*Gallia quod Græcia est, quod Græci barbara
non est,*

Utrique Budæo debet utrumque suc.

That *France* is turn'd to *Greece*, that
Greece is not turn'd rude,

Both owe them both to thee, their dear
great learned *Bude*.

And if we look over the *Poryneus, Metamor.*, in his Treatise of Universities and learned men of *Spain*, he spares not to write

of *Tostatus* Bishop of *Abulum*, si alio quam suo seculo vivere contigisset, neq; *Hippo*ni *Augustinum*, neq; *Stridon*ni *Hieronymum*, nec quempiam ex illis praecribis Ecclesiae antiquae nunc imitacimus: had he lived any other age save his own, we should not have needed now either to envy *Hippo* for *Augustin*, or *Stridon* for *Hierom*, nor any other of those ancient Worthies of the Church: To which *Pesserin* in his *Apparatus* adds, that at the age of two and twenty years, he attained to the knowledge of almost all Arts and Sciences. For besides Philosophy and Divinity, the Canon and Civil Laws, History and the Mathematicks, he was skill'd in the *Greek* and *Hebrew* Tongues: so as that it was written of him,

Hic super est Mundi, qui scibile discutit omne.

The Worlds wonder for that he,
Knows whatsoever known may be.

He was so true a student, and so constant in sitting o it, that with *Didymus* of *Alexandria*, *Enon habuisse intestina putaretur*, he was thought

thought to have a body of Brass, and so much he wrote and published, that a part of the Epitaph ingraven on his Tomb was;

*Præ natalis Luci folia omnia adaptans
Nondum sic sacris pagina trina satis ;*

The meaning is, that of his published Writings, we shall allow three leaves to every day of his Life from his very Birth, there would be yet some to spare; and yet withal he wrot so exactly, that *Ximenes* his Scholler, attempting to contract his *Commentaries* upon *Matthæw* could not well bring it into less then a thousand leaves in Folio, and that in a very small Print; and others have attempted the like in his other works with like success. But that which *Pasquier* hath observed out of *Monasteries Lib.* 56. 38. Touching a Young Man, who being not above twenty years old, came to *Paris* in the year 1445, and shewed himself so admirably excellent in all Arts, Sciences, and Languages, that if a man of an ordinary good wit and sound constitution should live one hundred years, and during that time (if it were possibly) study incessantly, without eating

ing, drinking, sleeping, or any other recreation, he could hardly attain to that perfection: insomuch that some were of opinion, that he was *Antichrist* begotten of the Devil, or somewhat at least above human condition; which gave occasion to these verses of *Castellanus*, who lived at the same time, and himself saw this Miracle of Wit,

*J'ay veu par excellence
 Vn jeune de Vinge ans
 Avoir toute Science & les degres montans
 Soyse vantant sçavoir dire
 Cequ' onques fat escrit
 Par seule fois le Livre
 Comme jeune Antichrist.*

A young Man have I seen
 At twenty years so skill'd,
 That every Art he had, and all
 In all degrees excell'd.
 What ever yet was writ
 He vaunted to pronounce
 Like a young Antichrist, if he
 Did read the same but once.

Not

Not to insit upon Supernaturals; were there among us that industry, and the union of forces, and contribution of helps, as was in the Ancients, I see no sufficient Reason but the Wits of this present Age might produce as great Effects as theirs did, nay greater, inasmuch as we have the Light of their Writings to guide and assist us: we have books by reason of the Art and Mystery of *Printing* more familiar, and at a cheaper rate: most men being now unwilling to give Three hundred pounds for three Books, as *Plato* did for those of *Philolaus* the *Pitthagorean*. And by this means are we freed from a number of gross Errours, which by the ignorance or negligence of unskillfull Writers crept into the Text: yet on the other side it is as true that we are forced to spend much time in the learning of Languages, especially the *Latin*, *Greek*, and *Hebrew*, which the Ancients spent in the study of things, their learning being commonly written in their own Language. Besides the infinite and bitter controversies amongst Christians in matters of Religion since the Infancie thereof even to these present times, hath doubtless not a little hindered the progress and advancement of other Sciences.

Likewise

Likewise it cannot be denyed, but that the encouragements for the study of Learning were in former times greater. What liberal and bountiful allowance did *Alexander* afford *Aristotle*, Eight hundred Talents for the entertainment of Fishers, Faulkners and Hunters to bring him in Beasts, Fowls, Fishes of all kinds, and for the discovery of their severall natures and dispositions: Nay, the daily wages of *Roscus* the Stage-player, as witnesseth *Macrobius*, in his *Saturnal Lib. 3. Caps 14.* was a thousand *Denarii* which amounteth to Thirty pounds of our Coyn. And *Aesop* the *Tragician* by the only exercise of the same Trade, if we may credit the same Author, that he left his Son above One hundred and fifty thousand pounds Sterling, whereunto may be added, that the Ancients copying out their Books, for the most part with their own hand, it could not but work in them a deeper impression of the matter therein contained, and being thereby forced to content themselves with fewer Books, of necessity they held themselves more closely to them. And it is true what *Seneca* saith, as well in reading as eating, *Varietas delectat, certitudo predest*, Variety is delightful, but certainty more useful and profitable.

So

So that upon the matter, reckonings cast up on all sides; and one thing being set against another, as we want some helps which the Ancients had, so we are freed from some hindrances wherewith they were incumbered; as again it is most certain, that they wanted some of our helps, and were freed from some of our hindrances: if then we come short of their perfections, it is not because Nature is generally defective in us, but because we are wanting to our selves, and do not strive to make use of, and improve those abilities wherewith God and Nature hath endowed us.

Male de Natura censet quicunque uno illam aut altero partu effatum esse arbitratur, saith *Vives*; He thinks unworthily and irreverently of Nature who conceives her to be barren after one or two Births; No, no, that which the same Authour speaks of places, is likewise undoubtedly true of times, *Ubique bona nascuntur ingenia, excolantur modo, alibi fortassis frequentiora, sed ubique nonnulla*.

Every where and in all ages good Wits spring up, were they dressed and manured as they ought, though happily more frequently in some places and ages then others. *Scythia* it self anciently yielded one *Anacharsis*. And no doubt had they

they taken the same course as he did, more of the same Metal would have been found there.

There is (it seems) both in Wits and Arts, as in all things besides, a kind of circular progress: they have their Birth, their growth, their flourishing, their tailing, and fading, and within a while after their Resurrection, and re flourishing again. The Arts flourished for a long time amongst the *Persians*, the *Caldeans*, the *Egyptians*, and therefore is *Moses* is said to be learned in all the wisdom of the *Egyptians*, who well knowing their own strength, were bold to object to the *Grecians*, that they were still Children, as neither having the knowledge of Antiquity, nor the Antiquity of Knowledge: But afterwards the *Grecians* got the start of them, and grew so excellent in all kind of Knowledge, that the rest of the World in regard of them, were reputed *Barbarians*, which reputation of wisdom they held even till the Apostles time. I am debtor, saith *St. Paul*, Both to the *Grecians* and to the *Barbarians*, both to the wise and to the unwise. *Rom. 1. 14.* And again, The Jews require a Signe, and the *Grecians* seek after Wisdom, *1 Cor. 1. 22.* By reason whereof

whereof they relished not the simplicity of the Gospel, it seeming foolishness unto them: And in the seventeenth of the *Acts* the Philosophers of *Athens*, (sometimes held the most famous University in the World) out of the opinion of their own great Learning, scorned *St. Paul* and his Doctrine, terming him a sower of Words, a very Babler or trifler: yet not long after this, these very *Gracians* declined much, and themselves (whether through their own inclination, or the reason of their Bondage under the *Turk*, the common Enemy both of Religion and Learning, I cannot determine) are now become so strangely Barbarous, that their Knowledge is converted into a kind of Ignorance, as is their Liberty into a contented Slavery: yet after the loss both of their Empire and Learning, they still retained some spark of their former Wit and Industry. As *Juvenal* hath it *Sat. 7.*

ingenium velox; audacia perdita; ser-
mo
Promptus, & Isæo torrentior, eade quid
illum
Esse putas quemvis hominem secum ac-
tulit ad nos
Grammaticus, Rhetor, Geometres, Pictor,
Aliptes,
Augur, Schenobates, Medicus, Magnus,
omnia novis
Græculus esuriens in Cælum jufferis,
ibit.

Quick witted, wondrous bold, well
 spoken, then
Isæus Plauter, who of all Men
 Brought with himself, a Sooth-
 sayer, a Physitian,
 Magician, Rhetorician, Geometri-
 cian,
 Grammarian, Painter, Ropewalker,
 all knows
 The needy *Greek* bid goe to Hea-
 ven, he goes.

[But

But now they wholly delight in ease,
in shades, in dancing, in drinking, and for
the most part, no further endeavour ei-
ther the enriching of their minds or pur-
ses then their bellies compel them.

The Lamp of Learning being thus neer
extinguished in Greece,

*In Latium spretis Accademia mi-
grat Athenis.*

Athens forsaken by Philoso-
phy
She forthwith travell'd into
Italy.

It began to shine afresh in *Italy* neer
about the time of the Birth of Christ, there
being a general peace thorow the World,
and the *Roman* Empire fully settled and
Established, Poets, Orators, Philosophers,
and Historians, never more Excellent. From
whence the Light spread it self over Chri-
stendom, and continued bright till the In-
undation

undation of the *Goths, Huns, and Vandals*, who ransacked Libraries, and defaced almost all the Monuments of Antiquity, in-
 somuch as that Lamp seemed again to be
 put out, for the space of almost a Thou-
 sand years, and had longer so continued,
 had not *Mensor* King of *Africa* and *Spain*
 raised up and spurred on the *Arabian* Wits to
 the restauration of good Letters by proposing
 great rewards and encouragements to them.
 And afterwards *Petarch*, a man of singular
 Wit and rare Natural Endowments, open-
 ed such Libraries as were left undemolish-
 ed, beat off the Dust from the Moth-eaten
 Books, and drew into the Light the best
 Authors. He was seconded by *Boccace*, and
Joh of *Ravenna*, And soon after by *Aretine*,
Philsephus, *Valla*, *Poggins*, *Onimbonus*, *Vergerius*,
Blondus, and others. And those again were
 followed by *Aeneas Sylvius*, *Angelus Politi-*
anus, *Hermolaus Barbarus*, *Marsilius Ficinus*,
 and that Phoenix of Learning *J. Picus* Earl
 of *Mirandula*, who as appears in his entrance
 of his Apogee proposed openly at *Rome*
 Nine hundred questions in all kind of Fa-
 culties to be disputed, inviting all strangers
 thither, from any part of the known
 World, and offering himself to bear the
 Charges of their Travel both coming
 and

and going, and during all their abode
there: so as he deservedly received that
Epitaph, which after his Death was bestow-
ed on him.

*Joannes hic jacet Mirandula, cetera non
vult,
Et Tagus, & Ganges, forsitan Antipo-
des.*

Here lies *Mirandula*, *Tagus* the rest
doth know,
And *Ganges*, and perhaps the *Anti-
podes* also.

And rightly might that be verified of
him which *Lucretius* sometimes wrote of
Epicurus his Master.

*Hic genus humanum ingenio superavit, &
omnes
Præstinxit stellas exortus ut æthereus
Sol.*

In Wit all men he far hath over-
grown,
Ecclipsing them like to the rising
Sun.

This Path being thus beaten out by these Heroical Spirits, they were backed by *Rodolphus Agricola*, *Reuchline*, *Melancthon*, *Joachim Camerarius*, *Musculus*, *Beatus Rhenanus*, *Almains*; the great *Erasmus* a *Netherlander*, *Lodovicus Vives* a *Spaniard*, *Bembo*, *Sadoletus*, *Engubnius*, *Italians*, *Turnebus*, *Muretus*, *Ramus*, *Pithaus*, *Budaeus*, *Amiot*, *Scaliger*, *Frenchmen*. *Sr. Thomas More*, and *Linaker*, *Englishmen*; And it is worth the observing, that about this time the slumbering drowzie Spirit of the *Gracians* began again to be revived and awakened in *Bissarion*, *Gemistius*, *Trapenzontius*, *Gaza*, *Argyropolus*, *Calcondilus*, and others: nay, these very *Northern Nations* which before had given the greatest wound to Learning, began now by way of recompence to advance the honour of it by the fame of their Studies, as *Olaus Magnus*, *Holsternus*, *Tycho Brahe*, *Frixius*, *Crumerus*, *Polonians*; But the number of those Worthies, who like so many sparkling Stars

Stars have since thorow Christendom succeeded, and many of them exceeded these in Learning and Knowledge, is so infinite, that the very recital of their names, were enough to fill whole Volumes: And if we descend to a particular examination of the several Professions, Arts, Sciences, and Manufactures, we shall sure find the Prediction of the Divine Seneca accomplished, *Natural. Quest. Lib. 7. Cap. 31. Multa ueniunt avi populus ignota nobis scire.* The People of future Ages shall come to the knowledge of many things unknown to us; And that of Tacitus is most true, *Annal. Lib. 3. Cap. 12. Nec omnia apud priores meliores, priora, sed nostra quoque atas multa laudes, & artium imitanda posteris tulit:* Neither were all things in ancient times better than ours, but our Age hath left to Posterity many things worthy of Praise and Imitation. I shall conclude with what Ramus writes further, and perhaps warrantably enough in his Preface. *Scholast. Mathemat. Majorum doctorum hominum & operum proventus seculo uno vidimus, quam totis antea 14. Majores nostri viderunt.* We have seen within the space of one Age, a more plentiful Crop of learned Men and Works, then our Predecessors saw in fourteen next going before

before us. But our prejudice is so great, against all things posited without the Sphere of our Knowledge; that all the advantage we can make of it, is, to condemn to the flame both Works and Authors. To acquaint Ignorance with the glory of the Heavens; the Magnitude, Distance, Motion and Influence of the Stars, is to present our selves guilty of that folly, never to be pardoned, by that Multitude; amongst which, to appear wise, is a crime, so Capital, that a punishment, less, then what the good Bishop suffered, for holding *Antipodes*, cannot expiate, which was no less than Death it self. Judge then, what courage a man ought to be master of, that will expose his Judgment to Publick Censour. *Cesar* and *Alexander* had not more occasion to use it, then that man hath, which shall dare to oppose an Opinion, which hath Generallity and Antiquity for its guard, to tell them, (that the Eighth Sphere is Sixty five millions two hundred eighty five thousand and five hundred of miles from us; and that the least Star in that Sphere is greater then the Globe we tread on,) and to maintain it amongst the rabble, is as dangerous, as to be a *Daniel* in the Den, with the Lyons; to speak of the seven Planets, their Natures, with the Effects that attends, their Times, Squares, Conjunctions,

Conjunctions, and Oppositions, to any bare
Ingenious, is madness it self, the *Zodiac* with
its *Dodecessima* division of Signes, with their
quaternal Triplicities, and the *Suns* progress
through those Signes, with the alterations
that it occasions, as to heat and coldness of
the weather, the length and shortness of the
days and nights, the flourish and decay of all
the fruits of the Earth, astonishes Ignorance,
but to the Learned, observation hath made the
reason of it obvious to understand. The lan-
guage of the Heavens, how excellent a thing
it is, all that have Souls of the first Mag-
nitude can witness. *Augustus* himself was
so great a lover of this Science, that he cau-
sed the Sign *Capricorn* (it being the Ascendant
of his Nativity) to be Stamped upon his Coin,
and advanced the same in his Standard.

Tiberius did so dote upon the knowledge
of the Heavens, that he learnt the same of
Thrasyllus at *Rodes*; and indeed, the Wonders
that hath been told, by those that have un-
derstood the speech of the Cœlestials, might
justly encourage all to the same Study; for
how could *Gauricus* have admonished *Henry*
the Second, King of *France*, from Tilting in
the one and fortieth year of his age, but
that he read the danger of it in the Starrs;
or the Bishop of *Vienna* assured *Don Frederick*,

that he should be King of Naples, Twenty
years before it happened. I could quote ma-
ny more examples, of the like nature, if
I thought it were to any purpose; but my
dread is, that most of the Sons of Men, are
so prepossess'd with an injury against all in-
telligibleness, but that which tends to the fil-
ling of their Coffers, that a truth may ex-
pect the same welcome amongst them; that
a true Saviour found amongst the false
Teachers.

And thus I have said, what I thought
it my duty to say, in this my last
work. I am, Sir, your humble servant,
and your obedient servant,
J. B. B.

FINIS.

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